The Oliver-Sharpey Lectures

ON

NEW FACTS IN RELATION TO THE PROCESSES OF NERVOUS DEGENERATION AND REGENERATION.

Delivered before the Royal College of Physicians of London on April [illegible]

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LECTURE I.

Delivered [illegible]

MR. PRESIDENT AND FELLOWS,—I have first to thank the College for the honour conferred upon me in selecting me as the Oliver-Sharpey lecturer for the present year. The College has always recognised, from the days of Harvey onwards, that scientific medicine must be grounded on physiological knowledge. The founder of this lectureship has exemplified this precept in his own lifework, and Sharpey, the great master whom the lectureship commemorates, always recognised the importance of physiology as the institutes of medicine.

Many years ago, when I was a first years student at University College, I remember Sharpey's commanding figure; for, though he had then relinquished his professorship, he continued to haunt the laboratory which had been the scene of his teaching and of his investigations. I well recollect the sad day on which his remains started from the precincts of University College to their last resting place. His name still lives not only in the memory of those whom he inspired but will be remembered in relation to his discoveries and is commemorated at his college by the foundation of the Sharpey Scholarship. Being myself one of the early Sharpey scholars, the invitation to deliver these lectures was one which was especially acceptable, and I can only trust that what I have to say will be considered worthy both of the great memory to which I have alluded as well as of the high traditions of this College.

In the days of Harvey the subject of physiological chemistry, chemical physiology, or bio-chemistry, as some prefer to term it, did not exist. The late *Sir Michael Foster* in his "History of Physiology," when speaking of Vesalius, said: "The great anatomist would no doubt have made use of his bitterest sarcasms had someone assured him that the fantastic school which was busy with occult secrets, and had hopes of turning dross into gold, would one day join hands in the investigation of the problems of life with the exact and clear anatomy so dear to him." Almost the same words might be used in reference to Harvey's attitude. The scientific men of his time paid no heed to chemical learning; they ignored or even despised the beginnings of that branch of knowledge which in later years was to become one of the foundations of physiology and the mainstay of the art of medicine. It was the work of Lavoisier in France, of Mulder in Holland, and of Liebig in Germany that first placed bio-chemistry on a sure basis, but even in Sharpey's time the disciples of this branch of science might have been counted on the fingers of one hand. Sharpey himself retained to the end the anatomical conception of physiological advance. How different things are to-day; how great have been the strides made in chemical physiology and in its sister science, chemical pathology, can be realised by even a superficial survey of modern medical literature.

A few years ago, when I had the honour of delivering before this College the Croonian lectures, I selected as my subject the chemical side of nervous activity, in which I hope I was successful in showing how chemistry has invaded even the difficult country we call the nervous system. I then indicated that although some progress had been made, even in the practical applications of that knowledge, much still remained to be done. The same is true to-day, but in the few years that have elapsed since I uttered these words a little progress has been made, and it is to some of this new work that I propose to devote the present lectures. One great charm of physiology to the investigator is that fresh facts are always being discovered, and new light is thus shed on the problems of living matter. In so far as I myself have had any small share in such work, my energies have been mainly directed into a bio-chemical groove, and it is one of these questions—nerve degeneration—to which I shall devote the first of the two lectures. That bio-chemistry is not a narrow specialism, and research on such lines usually branches out in many directions; this will be illustrated by the circumstance that for the subject of my second lecture I shall take that of nerve regeneration, in which at present there is but little to be said from the chemical point of view. In relation to both of these subjects it would have been impossible to speak at all if it were not for the assistance of certain of my colleagues. Among these I would particularly mention Dr. F. W. Mott, to whose loyal coöperation and helpful advice I owe so much. Mr. Arthur Edmunds, Dr. Rosenheim, and Miss Tebb are others to whom both Mott and myself are indebted for great assistance in several portions of our conjoint work.

One more word of introduction, and only one, before I pass to the subject proper of my first lecture. It is impossible in our present state of knowledge to avoid controversial questions. I have to-day to deal with one and to-morrow with another. Polemics are always distasteful to me and I trust that I may deal with both without a single note of personal feeling. The proverbial disagreement among doctors is especially true of physiologists, and this is really as it ought to be. Whilst knowledge is in the making there must be divergencies of opinion, and it is only by a full and free discussion of these and by the renewed research of which criticism is the stimulus that any certainty in the way of truth can be arrived at.

NERVE DEGENERATION.

It is more than 50 years ago that the elder Waller described the degeneration that occurs in nerve fibres which are cut off from the cells of which they are outgrowths. So complete and exact was his description of this phenomenon, now known as Wallerian degeneration, that in the intervening years but little has been added from the anatomical and histological standpoint to what he taught. But in order to understand completely the chemical transformations which lead to these anatomical appearances it is first necessary to know the chemical composition of the healthy nervous structures involved. It is just at this fundamental point that we meet with a great hiatus in knowledge. We know something of (because we can easily estimate it) the proportions between water and solids in the various districts of the nervous system. We know, further, that among the solids protein matter, and especially nucleo-protein, largely predominates, particularly in grey matter, but it is in relation to the phosphorised fatty constituents, the presence of which forms such a striking characteristic of all nervous material, that our ignorance is greatest. Thudichum did yeoman service in his attempts to unravel this problem, and the value of his investigations is only just beginning to be appreciated. His work is marred, it is true, by too hasty generalisations, and by such faults as are always seen in a new endeavour—faults which subsequent observers should be grateful for, as they profit by them and avoid them. No one who has not attempted to work at the chemistry of the brain can imagine the difficulties that meet one at every turn. In America Waldemar Koch, and Gies may be mentioned among those who have had the courage to enter this thorny field, and in my own laboratory Dr. Rosenheim and Miss Tebb are prosecuting similar researches. The phosphorised fats are not the only complex substances which are present. The crystalline monatomic alcohol called cholesterin is present in a free condition in considerable amount; this cannot be devoid of physiological moment, and yet absolutely nothing is known either of its mode of origin, its destination, or its function. Then there are complex nitrogenous glucosides, called the cerebrins or cerebrosides, here, again, although some of them have been separated in a fairly pure condition, analysed, and labelled with fantastic names, we have no certain knowledge either of their constitution or of their use. One notes with some regret the final disappearance of the substance originally termed "protagon" by Liebreich. This is one of the few materials that can be obtained in a crystalline form from nervous structures by cooling a warm alcoholic extract of brain, for instance. It has passed through many vicissitudes, being alternately regarded as a mixture and as a chemical individual. The work of Gies in New York and that of the workers in my laboratory have, however, finally demonstrated that it has no independent existence.

It will, however, be beside my purpose to dwell too long on the lack of the knowledge we hope to obtain some day, or to go any more fully into incomplete researches now in progress. When the day arrives of perfect knowledge in such matters there may be a very different story to tell. We must, however, take things as they are, and at any rate I think we are pretty safe in taking lecithin as a type of the phosphorised fats, and we are acquainted both with its composition and with the products of its decomposition. It is present in considerable amounts in nervous tissues and it is owing to its presence that the black staining with osmic acid of the fatty sheath of nerve fibres is mainly due. The use of osmic acid as a reagent for the detection of fat depends on the presence in the fat of oleic acid and its compounds. Oleic acid is the only representative of the acrylic series of fatty acids found in the body, and all the acids of this unsaturated series possess the power of taking oxygen from osmic acid—osmium tetroxide—and so reducing it to the condition of a lower oxide which has a black colour. Fats which are compounds of acids of the acetic series —such as palmitin and stearin—do not give the reaction. When Wallerian degeneration occurs the degenerated fatty sheath is stained much more readily with osmic acid than the healthy medullary sheath. It will strike the black colour with osmic acid even in the presence of chromic salts, and it is this circumstance that has led to the adoption of a mixture of the two acids, known as Marchi's reagent, for the detection of degenerated fibres. The intense black staining which the degenerated myelin gives is due either to an increase of the oleic acid radical or more probably to a loosening of its combination with other atomic groups, so that it is able to exert its reducing action more forcibly. Lecithin is a fat which yields on hydrolytic decomposition four groups of material. They may be represented in the following simple way:—

Lecithin + water.

(1) Fatty acids; oleic acid among the number.
(2) Phosphoric acid
(3) Glycerin
(4) Choline.

Glycero-phosphoric acid.

An ordinary fat yields only two—namely, fatty acid and glycerin. The phosphoric acid obtained contains all the phosphorus of the original lecithin, and unites with glycerin to form glycero-phosphoric acid. The fourth decomposition product—choline—is an ammonium-like base, and contains all the nitrogen of the lecithin. I dealt with these points more fully in my Croonian lectures, but it may be necessary to remind my hearers of these main facts in order to pave the way to what we are coming. I would further remind you that Mott and I showed that in degenerative diseases of the nervous system, as well as in the degeneration artificially produced in animals by the cutting of nerves, the products of degeneration pass into the circulating fluids, and can be detected there. We further showed that in a certain stage of the degenerative process in a nerve all traces of phosphorised fat disappear and the fat or fatty acid which is absorbed more slowly remains in the nerve sheath for a considerable time, and while it is present it continues to give the Marchi reaction.

THE DETECTION OF CHOLINE.

In our work we laid special stress on the importance of the discovery of choline in the blood and cerebro-spinal fluid. If this is found, there is available a definite proof of the breakdown of nervous tissues. We further indicated that the detection of choline in such situations might be of practical service in diagnosing organic nervous diseases, for functional disturbances are often difficult to distinguish from these by the observance of mere symptoms. This discovery has been confirmed by numerous subsequent observers and the expectation that the test would be diagnostically useful has also been fulfilled. On the other hand, our methods for the detection of choline have been subjected to criticism, and it has been this criticism which has stimulated us to further work on the subject and has led us to modify the tests we previously published, and also to rectify some of our conclusions. As the invention of the choline test has been hitherto the main practical outcome of our work from the clinical point of view, I take this opportunity, when I am addressing physicians, of amplifying this part of my subject by mentioning the main objections that have been raised to our work, the further examination to which we have in consequence subjected our methods, and the present conclusions at which we have arrived. I think you will find that we have succeeded in confirming all our main previous statements, and what is more important, rendering the means of detecting choline absolutely trustworthy.

The tests for choline which Mott and I chiefly dealt with were two in number. The cerebro-spinal fluid or the blood was first extracted with absolute alcohol; the alcoholic extract was evaporated to dryness and the residue again taken up with alcohol, and this operation was repeated several times in order to avoid any contamination with potassium salts. We imagined at the time that potassium salts were quite insoluble in absolute alcohol. The final residue was dissolved in alcohol again and an alcoholic solution of platinum chloride added; the yellow precipitate so produced was washed with alcohol by decantation and finally dissolved in 15 per cent. alcohol; on evaporation of this at a fairly low temperature yellow crystals (prisms and octahedra) separated out, and these consist of the double chloride of choline and platinum. The same test with slight modifications was also adopted by Donath in Germany, who was one of numerous others to confirm our results.[1]

The second test was a physiological one. It consisted in taking the final residue after alcoholic extraction and dissolving it in salt solution. When this solution is injected into the blood stream of anæsthetised animals it produces a temporary fall of arterial blood pressure; if, however, the animal has been previously poisoned with atropine the fall is either absent or replaced by a rise. This action is characteristic of choline and is quite different from the effect produced by the substances most likely to be confused with choline, which are the chlorides of ammonium and of potassium. It is, however, a test which is not available for ordinary clinical use and so special interest attaches to the chemical test which can be obtained with smaller quantities either of the cerebro spinal fluid or of the blood.

It is the chemical test which has been mainly the cause of the criticisms to which I have alluded. Some of our critics seem to have thought that we had been content to diagnose the crystals of the choline platinum compound by mere inspection, which is usually a fallacious method of identifying any crystalline substance. If our original papers are consulted it will be seen that this is not the case; in some cases where we were successful in obtaining a large supply of material we examined other properties of these crystals (their solubilities, the amount of platinum in them, &c.) and, moreover, found that on heating they gave out the odour of trimethylamine, and we further supported our statement that choline was present by performing other tests in addition. Some critics—for instance, Vincent and Cramer—regarded our contentions as "*a priori* improbable" and "scarcely conceivable," but they did not examine either pathological blood or cerebro-spinal fluid in order to determine whether the facts as we had stated them were correct or not.

The first serious piece of criticism came from Guy's Hospital. Allen and French pointed out that the treatment with absolute alcohol did not get rid of potassium salts entirely; and as the platino-chloride of potassium is exactly similar in form to that of choline platino-chloride inspection of crystals obtained by our method was insufficient to distinguish them. Inspection of crystals is usually the only test which a clinical observer has time for; and if the amount of material is small it is probably the only available test. On account of this uncertainty Allen and French abandoned the platinum test entirely and adopted instead a modification of the iodine test for choline in which there is no risk of such confusion. By the help of this reaction Allen subsequently confirmed our statements concerning the presence of choline in the blood of patients suffering from acute degeneration of nervous structures

The accompanying drawing from a photograph (Fig. 1) will illustrate the impossibility of identifying the two platino-chlorides in question by their crystalline form. At this lapse of time I cannot remember which of the crystals are those composed of the choline and which of the potassium compound. They are quite indistinguishable by mere inspection; but they can be distinguished, as I shall presently show, and were actually distinguished in the specimen from which the photograph was made. Shortly after Allen and French published their observations a paper by Mansfeld appeared in one of the German journals criticising Donath's results on much the same lines. I thought, therefore, it was high time for us to take up the matter once more, and I therefore placed it in the hands of Dr. Otto Rosenheim, whose knowledge of chemistry and chemical technique is much superior to my own, and he carried out the research in my laboratory. In the course of his work he came to the conclusion that the solubilities of potassium and ammonium salts in absolute alcohol and of their platino-chlorides in 15 per cent. alcohol, though small, were nevertheless such as to make a contamination of the final choline platino-chloride, with platino-chlorides of potassium or ammonium, a possible source of error. It was therefore necessary to search for other tests for choline which are not given by these inorganic salts. As an outcome of his work he discovered three such tests, but I shall be content here with describing one only, since it is simple and easily applied, and, moreover, is absolutely decisive. Like Allen's, it is a modification of the iodine test and it is performed in the following way. A strong solution of iodine in potassium iodide is added to a preparation of the choline platino-chloride crystals; these then alter in a characteristic way, and the change may be watched with the microscope. In the course of a minute or so the yellow crystals shown in Fig. 1 disappear and their place is taken by dark-brown plates and prisms in large quantities. They show marked dichroism, they are doubly refracting, and have a superficial resemblance to the well-known hæmin crystals. Their appearance is depicted in Fig. 2. They are composed of a periodide of choline ($C_5H_{14}NOI.I_4$), but are extremely unstable, and if the slide is allowed to stand so that the liquid gradually evaporates the crystals begin to disappear, and their place is taken by brown oily droplets, or sometimes clear spaces showing the skeletons of the crystals are seen. This indicates the formation of a lower iodide and the appearance is depicted in the next figure (Fig. 3).

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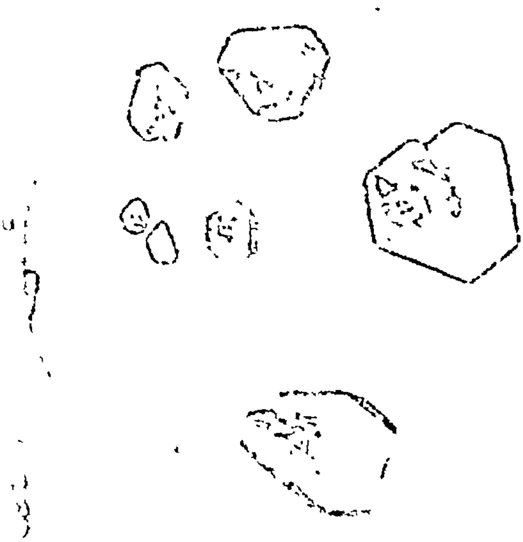
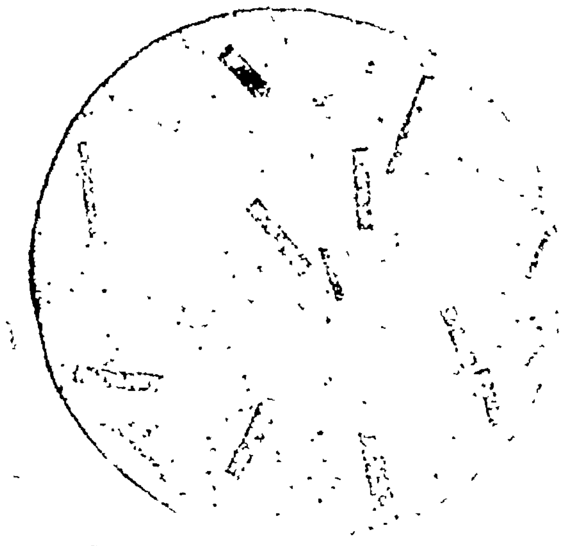
[1] Donath's statement that choline is similarly also found in the fluids of epileptics requires confirmation. If the diagnosis of epilepsy in these cases was correct, and the existence of choline is confirmed, it appears necessary to remove epilepsy from the list of functional diseases.

FIG. 1.



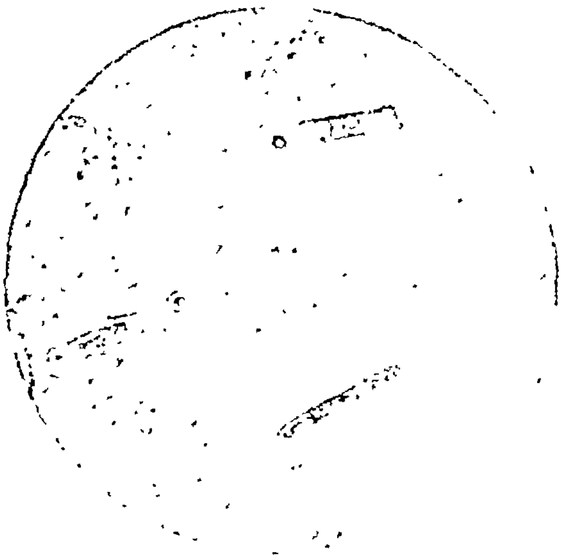
Crystals of platino-chloride of choline and platino-chloride of potassium on the same slide. (From a photograph by Otto Rosenheim.)

FIG. 2.



Photomicrograph of the crystals of choline periodide. (O. Rosenheim.)

FIG. 3



This shows the disintegration and the formation of oily droplets which occurs when the choline periodide slide is exposed to the air. (From a photograph by O. Rosenheim.)

If, now, a fresh drop of the iodine solution is added the crystals gradually form once more and their formation and disappearance can be watched repeatedly. If platino-chlorides of potassium or ammonium are present on the same slide they remain unchanged under the action of the iodine solution. It was possible by this simple test to detect choline in 20 cubic centimetres of blood when choline had been added in the proportion of 1 to 20,000. When five cubic centimetres of blood containing choline in the proportion of 1 to 2000 were used the whole field was covered with crystals which could be seen with the naked eye.

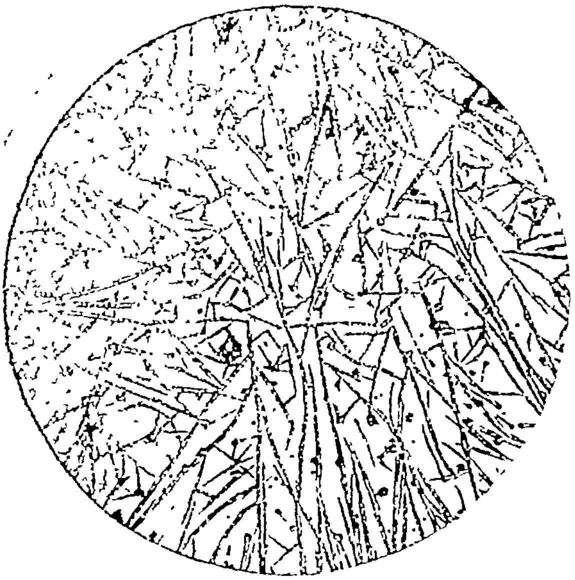
In the same number of the *Journal of Physiology* in which Rosenheim published these interesting and striking results Donath answered his critics by publishing another distinctive character of the crystals of the platino-chloride of choline. They are doubly refracting and so appear bright in the dark field of the polarising microscope and show changes in illumination when they are rotated in the field. In this way every microscopic fragment of the choline platino-chloride is rendered visible which by ordinary microscopic methods might escape detection owing to their transparency. The platino-chlorides of potassium and ammonium do not exhibit this phenomenon. Donath puts his case very well when he says:—

> The occurrence of inorganic chlorides which have hitherto interfered with the testing for choline by the platinum reaction on account of their slight solubility in absolute alcohol is a circumstance which

has lost its terrors, so much so that an actual addition of potassium-chloride has become part of my method, and causes no difficulty when the polarisation test is applied.

He then proceeds to give a list of cases where he has examined the cerebro-spinal fluid removed by lumbar puncture from patients suffering from various nervous diseases, and illustrates his results by a series of photomicrographs showing the crystals under various positions in the field of the polarising microscope. Dr. Rosenheim has confirmed these statements and the next figure (Fig. 4) illustrates the appearances observed.

FIG. 4.



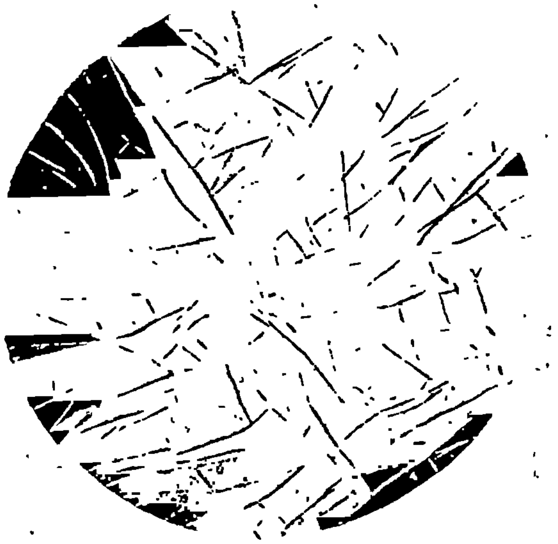
Preparation of crystals of the platino-chlorides of choline (needles) and of potassium (octahedra) obtained from a specimen of cerebro-spinal fluid from a case of general paralysis of the insane. (O. Rosenheim.)

In Fig. 4 the crystals of the platino-chloride of choline are seen as separated from an actual case of pathological cerebro-spinal fluid. In this case they were crystallised from an aqueous solution and have taken the needle-like form they usually exhibit when crystallised in this way. Mixed with them are seen a number of small octahedra of the platino-chloride of potassium. Fig. 5 shows the same preparation under polarised light; the crystals of the choline salt show up as bright needles, but the crystals of the potassium salt have disappeared from view. The crystals of the choline salt in this case further gave Rosenheim's new iodine reaction. In some cases Rosenheim made out another fact which is not devoid of significance. If he obtains from cerebrospinal fluid which contains choline a slide of the crystals of the mixed platino-chlorides and places it under the field of the polarising microscope, the inorganic platino-chlorides exhibit no double refraction but a large proportion of the crystals present show the phenomenon. If he then subjects the same slide to his iodine test many of the doubly refracting crystals are transformed into the brown crystals of the periodide of choline, but some remain unaltered and others yield crystals of different form from the choline periodide. In other words, some of the doubly refracting crystals are not choline compounds but probably crystals of other organic platino-chlorides. This is only what one would expect. Mott and I were always from the first careful to point out that choline is not the only product of nervous breakdown; the complex chemical structure of nervous material to which I have alluded in some of the earlier passages of this lecture would lead one to suppose that the cleavage products which are liberated during the degenerative process would be exceedingly numerous. We called attention, among other points, to the great increase of the nucleo-protein which passes into the cerebro-spinal fluid in such circumstances. The importance of the detection of choline arises because [illegible] numerous substances be detected with comparative ease. Its presence indicates the breakdown of one of the best known of the constituents of nervous matter (lecithin), but suggests that it must be accompanied by the presence of numerous other similar and even dissimilar compounds.

During the last year Dr. Mott has sent from Claybury Asylum a great number of specimens of cerebro-spinal fluid to Dr. Rosenheim, and the latter has subjected them to his new tests. The number of specimens of blood similarly sent has been small, and hitherto choline has only been detected in one of these; they were in the main from cases where choline would hardly be expected to occur, for, as Mott pointed out, active degeneration must be recent for the test to be a decisive one. But the examinations of the cerebro-spinal fluids have been fully satisfactory and a sufficient number of positive results have been obtained to corroborate the views of Mott and myself. I do not propose to anticipate any further Dr. Rosenheim's full paper on the subject except to say that it has ultimately been found better to shorten the procedure of testing by applying the iodine reaction direct to the alcoholic extract of the fluid. There is no necessity to prepare the platino-chloride first and apply the iodine test to those crystals. It was found that some of the other bases already referred to, the identity of which is still uncertain, often by their presence interfere with the iodine reaction when it is applied to the mixtures of the crystalline platino-chlorides. This is an additional reason for using the test in the direct manner.

I had, happily, kept a considerable number of the preparations of crystals which Mott and I had made years ago and from which we drew our previous conclusions. On examining these afresh by the new means of identification we now possess I have found that without doubt they do not consist wholly of the choline compound but contain a considerable admixture of inorganic platino-chlorides, especially the platino-chloride of potassium. We, however, still hold that the obtaining of a large crop of crystals, whether they be those of the choline salt or a mixture of the potassium and choline salts, is diagnostic of extensive breakdown in nervous tissues. The contrast between such cases and the insignificant yield from normal blood is most striking. This is quite intelligible when we take into account the very high percentage of potassium that nervous tissues contain. This has been amply demonstrated by the microchemical work of Macallum and of Macdonald. The rôle which Macdonald assigns to the potassium salts in nervous phenomena it is unnecessary to discuss here, interesting and important as his views are. This has suggested to us a new piece of work which has only just been started—namely, the actual estimation of the potassium in the cerebro-spinal fluid and [illegible] of acute degenerative diseases of the nervous

FIG. 5.



The same preparation in the dark field of the polarising microscope; the crystals of the choline salt are bright; but the crystals of the potassium salt have become invisible. (O. Rosenheim.)

system in comparison with the normal. I am sorry I cannot at present give any final figures but, so far as the preliminary work goes, it indicates a considerable increase of the potassium in those cases where disintegration has occurred and where choline is also discoverable.

THE PHYSIOLOGICAL TEST FOR CHOLINE.

I have devoted so much time to the chemical test for choline because that is the one so obviously suitable for clinical work. The physiological effect on the blood pressure that choline exercises is, however, not devoid of interest, and a brief mention of some recent work in this direction will conclude what I have to say. Swale Vincent, in his earlier work on the physiological action of extracts of nervous tissues, found that the intravascular injection of such extracts caused in anæsthetised animals a considerable fall of blood pressure. I had simultaneously published similar results and attributed the fall to the presence of choline. Vincent, however, denied that choline was present. He subsequently, with Cramer, amended this statement, but was of opinion that the choline present was in the form of dicholine anhydride. The existence of this compound is very problematical and the analytical evidence presented is not very convincing; still the suggestion that compounds or modifications of choline may exist is not devoid of interest. Vincent and Cramer also found what I had missed—namely, that there are other substances present in such extracts which are readily soluble in ether and which produce a much more powerful depressor effect on the blood pressure than choline, and that in the case of such substances the depressor effect is not abolished by atropinisation. The identification of these other materials was not attempted. It is quite possible that these substances are absolutely distinct from choline; and, on the other hand, the view is permissible that they are choline derivatives. This second view gains point from a study of some experiments which Reid Hunt and Taveau brought forward at the meeting of the British Medical Association in Toronto last year.

Dr. Hunt is one of numerous American pathologists who have repeated and confirmed the original statements of Mott and myself and has thrown himself into the choline controversy with characteristic transatlantic enthusiasm. He has prepared and studied the physiological action of as many as 19 compounds of choline and suggests the possibility that some of these may be formed in the body. Some of them are more and others less active than choline itself, the most powerful is acetylcholine; this is one hundred times more active in producing a fall of blood pressure than adrenalin is in producing rise; the injection of a few cubic centimetres of a solution containing it, diluted with one hundred million times its volume of water, produces a distinct effect in a rabbit. The action of acetyl choline is not annulled by atropine, and it is capable of overcoming the effect of adrenalin. On the other hand, some of the choline derivatives examined were less powerful than choline itself; the introduction of a phenyl group, for instance, diminishes its depressor effect. As an outcome of his work Dr. Reid Hunt recommends two new tests for choline; one is the formation of the acetyl compound to render the physiological test more sensitive, the other is the formation of the benzoyl compound; this gives a distinctive crystalline platinum salt which cannot be confused with the platino-chlorides of ammonium or potassium. I have not actually tested these methods myself but I think I have said sufficient to show that in the future those engaged in research will have no lack of methods to render the testing for choline a matter of no difficulty.

The bibliography of this subject up to 1905 will be found very completely given in my article on Die Biochemie der Nerven in the *Ergebnisse der Physiologie*, vol. iv., p. 23, 1905. The principal papers which have appeared since are the following:—J. Donath: *Journal of Physiology*, vol. xxxiii., p. 211; Rosenheim: Ibid., p. 220. Reid Hunt and Taveau: *Brit. Med. Jour.*, 1906, vol. ii., p. 1783. Several observers have surmised that the breakdown of lecithin is due to the activity of a ferment; the ferment has, however, not been isolated. Marinesco (*La Presse Médicale*, Feb. 16th, 1907) suggests that the ferment is formed by the neurilemmal cells, which actively multiply during Wallerian degeneration.

HOSPITAL SUNDAY IN CARDIFF.—April 28th was observed in Cardiff as "Infirmary Sunday." As the result of last year's collection £777 were raised for the funds of the Cardiff Infirmary.

A Lecture

ON

CEREBRO-SPINAL FEVER.

Delivered at the London Hospital on March 21st, 1907.

BY CECIL WALL, M.A., M.D. OXON.,
M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE HOSPITAL AND TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

GENTLEMEN,—The study of cerebro-spinal fever is always interesting; at the present time it has become exceptionally important owing to the increase in the number and severity of the cases occurring in various parts of the country. I propose, therefore, to discuss with you certain points which are of value in the clinical diagnosis and will preface my remarks with a few words on the morbid anatomy and the nomenclature of the disease.

Cerebro-spinal fever is the result of an acute meningo-encephalitis; in the very early stage at the post-mortem examination *little abnormal may be seen save an intense*, perhaps hæmorrhagic, inflammation of the pia mater and arachnoid covering the brain and spinal cord with evidence of inflammation of the cortical grey matter of the brain. At a later stage a more characteristic condition may be found, the inflammation of the pia mater and arachnoid being associated with a purulent exudate between them; this exudate is most marked where the subarachnoid space is widest, so that purulent collections are formed on the sulci of the cortex, in the lymph cisterns at the base of the brain, and in the spinal cord. If death occurred at a late stage of the disease an extensive serous exudate might be found distending the basal cisterns, the subarachnoid space surrounding the spinal cord and the lateral ventricles of the brain (with which the subarachnoid space communicates through the foramen of Majendie), the fourth ventricle, the iter, and the third ventricle. The distension of the ventricles leads to flattening of the cortical convolutions and obliteration of the subarachnoid space. The purulent exudate is thus driven from the surface of the brain to the base and is found in large quantities only there and in the spinal canal.

It is thus possible to distinguish three stages in the disease. In the first stage, when the patient has died in less than 48 hours from the onset, there is an acute, possibly hæmorrhagic, meningo-encephalitis without exudation. In the second stage the meningo-encephalitis is associated with a purulent exudate into the subarachnoid space. This condition is usually found if the patient has died within about 14 days from the onset. In the third stage there may be an extensive serous effusion distending the subarachnoid space and the cerebral ventricles. The purulent exudate may be collected in the wider arachnoid spaces or may have disappeared more or less completely. This condition may be found as early as 18 days from the onset and may persist for weeks or months and sometimes is the cause of the condition known as chronic hydrocephalus. Other morbid conditions may be present but need not be detailed here.

Acute general meningo-encephalitis is, without doubt, always the result of infection by some micro-organism; the meningococcus, the pneumococcus, and streptococci are those most usually present. In the disease known as epidemic or sporadic cerebro-spinal fever the meningococcus is said to be the causal agent though the proof is not yet quite complete. Cerebro-spinal meningitis due to the meningococcus is an endemic disease of which we are seldom without some examples in this hospital; under the name of posterior basic meningitis or cervical opisthotonos of infants it is by no means rare. Posterior basic meningitis is the term applied to a comparatively mild form of the disease occurring in children in which a fatal result tends to occur in the third stage. It is, perhaps, unfortunate that the name still persists seeing that it suggests but one of the accidental characters of a general acute meningitis. At times, especially in the spring, the cases occur much more frequently and occasionally the increase in number and severity of the symptoms seems to justify the term epidemic.

The word epidemic suggests in the minds of most that the infection may be transmitted from person to person by contact or by fomites. We read of past epidemics of a disease presenting symptoms similar to those produced by infection with the meningococcus, in which evidence of transmissibility by contagion was strong, but since the introduction of the bacteriological methods of diagnosis no epidemic has occurred where such evidence has been forthcoming. In 1905 there was an outbreak of cerebro-spinal meningitis at Irthlingborough, in which spread by contagion was probable. This was investigated by the Local Government Board, but unfortunately the bacteriological evidence that the meningococcus was responsible was based on the examination of the nasal secretion of two cases only and can scarcely be deemed conclusive. In the sporadic cases with which we are familiar instances of infection by contact are practically unknown; there seems to be no clue to the mode of infection, though the nasal mucosa is commonly suspected. Hence we are driven to the conclusion that either the meningococcus may at times, owing to unknown circumstances, become more virulent, or some other organism may be responsible for those epidemics where transmissibility by contagion is a marked feature of the disease. Further information upon this point is urgently required; it is to be hoped that the action of the London County Council in requiring notification of the disease may determine the question.

The recognition of the disease at the bedside is the point to which I wish particularly to draw your attention. It is convenient to group the symptoms and signs according to the underlying pathological state. In the first place, cerebro-spinal fever is a general disease with definite local manifestations. Of the incubation period we know nothing; the invasion is usually sudden, with fever, vomiting, rapid wasting, and general febrile symptoms; in the malignant type, as with other specific fevers, a purpuric rash may develop which has led to the name "spotted fever" and in the past has frequently led to confusion of the disease with typhus fever. Other symptoms and signs are referable to the local disease: acute encephalitis occurring after development of the cortex cerebri leads to headache and profound alterations of consciousness, such as delirium or coma, and to spontaneous movements of the limbs, convulsions, and paralysis. Dissociation of movements of the eyeballs is common in the young and can be explained as reversion to a previous stage of development consequent upon the removal of the recently acquired cortical control. Blindness without alteration of the pupillary light reflex and deafness may develop and persist for a long time; the usual cause seems to be the encephalitis. In the young child up to the end of the first year of life the functions of the cortex are so little developed that their abolition or impairment by encephalitis may escape notice; many cases of the so-called posterior basic meningitis of infants afford examples in proof of this statement.

Inflammation of the meninges can only be recognised by the reflex muscular contraction which tends to prevent any mechanical disturbance and by the implication of sensory nerves with consequent referred pain. There are two situations where movements of the body lead to movements of the meninges; in flexion and extension of the head the cerebellum slides up and down the posterior surface of the medulla and unfolds or folds the arachnoid which forms the bridge between them. If the arachnoid be inflamed the muscles at the back of the neck contract to prevent such movement; resistance against antero-posterior movement of the head without resistance to movements of rotation about a vertical axis is a sign very commonly present when there is inflammation of the meninges at the base of the brain. Sometimes the contraction is so extreme that the occiput actually touches the skin between the scapulæ and there is a general spinal opisthotonos with great rigidity. The other situation in which mechanical disturbance of the meninges results from movements of the body is in the lumbar and sacral regions; if the sciatic nerve be stretched the traction is transmitted to the spinal meninges. This is the explanation of the sign of spinal meningitis described by Kernig; if one hip joint be flexed to a right angle, the other being kept extended to prevent a fallacy from tilting of the pelvis, and the knee-joint be then passively extended, the hamstrings will reflexly contract and prevent extension of the knee-joint beyond a right angle and a half (135°) when there is acute inflammation of the spinal meninges. These two signs are very frequently present in cases of acute cerebro-spinal meningitis. Referred pain due to implication of the nerve roots in the inflammatory process explains the remarkable cutaneous tenderness which may be present in those patients sufficiently conscious to appreciate it.

We can now pass on to the consideration of the signs by which we can recognise a marked increase in the cerebro-spinal fluid which may occur in the third stage of the disease. Increased intracranial pressure leads to vomiting, spasmodic retraction of the upper eyelids, impairment of the cerebral functions, and not infrequently to swelling of the optic discs; if the fontanelle be still patent its tenseness may give direct evidence of the rise of pressure; in very young infants before the sutures between the skull bones have united there may be separation of the bones.

We have now discussed in general the symptoms and signs likely to be present in a case of acute cerebro-spinal meningitis: the etiological diagnosis remains to be considered. This can only be established absolutely by the identification of the infecting organism. The method employed to obtain material for examination is to perform lumbar puncture in the early stages; the fluid thus obtained will probably be scanty, moderately albuminous, and containing many polymorphonuclear leucocytes. The meningococcus, if present, may be identified by cultivation and may be seen within the cells in smear preparations. In the later stages the fluid may be under considerable pressure and a large quantity may be obtained; the albumin will be less in amount and the cellular elements more scanty and the meningococci more difficult of identification and cultivation. In this stage symptoms due to increased intracranial pressure may be remarkably alleviated by lumbar puncture.

I will now recapitulate the chief clinical characters of the disease. Patients of any age may be attacked but it is much more common in children. In sporadic cases there is no evidence of spread by contagion, and the proof of such spread in epidemics proved to be due to the meningococcus is inconclusive. The onset is usually sudden, but in young children the presence of symptoms due to the encephalitis may be difficult to recognise. The common mode of invasion is by headache, vomiting, cutaneous and muscular tenderness, convulsions with delirium, or other profound mental disturbance; there is usually some fever, the temperature being from 102° to 105° F. Rigidity of the neck, retraction of the head, and Kernig's sign are frequently present; dissociated movements of the eyeballs may occur; optic neuritis is uncommon. Wasting is rapid, and petechial or herpetic eruptions may develop. Lumbar puncture performed at this stage may be unsuccessful or a small quantity of turbid fluid may be withdrawn. This first period of the disease corresponds with the first and second stages of the pathological development; it lasts from two to ten days and the pyrexia often terminates by crisis, and a convalescence, generally tedious, may be established. Frequently the first stage merges, with or without a brief period of apparent improvement, into the stage of internal hydrocephalus. If this occurs on about the eighteenth day from the onset of the disease vomiting, spasmodic retraction of the upper lids, and a recrudescence of the mental disturbance, perhaps with convulsions, will develop and the temperature will become irregular. In young babies these symptoms may be absent and the increase in cerebro-spinal fluid may be recognised only by the rapid enlargement of the skull with bulging of the fontanelle and starting of the sutures. Death may occur during this stage of internal hydrocephalus or the condition may become chronic, or recovery, partial or complete, may be the result. With partial recovery the possible after-effects are numerous: persistent blindness or deafness with consequent mutism, a dementia akin to that of general paralysis, imbecility, epileptiform convulsions, spastic paraplegia, or diplegia may be the legacy of the disease.

In the early stage the diagnosis has to be made most usually from influenza, typhus, and typhoid fever. Influenza may closely simulate meningitis in the suddenness of onset, in the headache, and in the pyrexia; the absence of evidence of abolition of the cerebral function and of the signs of basal and spinal meningitis are points upon which stress should be laid. Lumbar puncture may be necessary to settle the diagnosis. In former days typhus fever and meningitis were frequently confused; in modern times typhus fever is so rare that the difficulty in diagnosis does not often arise. The gradual onset of typhoid fever, the apathetic state, and the development of the typical signs and symptoms with the agglutination reaction usually serve to distinguish the condition. I have known meningitis incorrectly suspected when the neck has become rigid owing to inflamed cervical

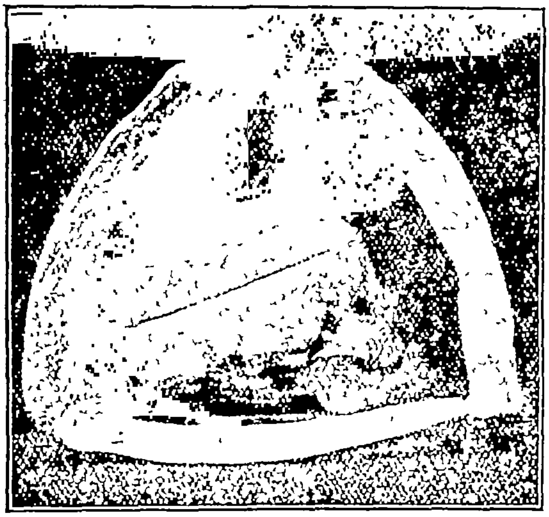
TABLE OF 63 DETERMINATIONS OF THE OPSONIC POWER OF THE SERUM IN CEREBRO SPINAL FEVER.

Name of patient.	Age, years.	Day of disease.	Temperature (F.) morning and evening.	Opsonic index.	Date.	Agglutination.	Remarks.
A—n.	13	1st.	97°–101°	0·58	March 23rd.	–	Died 36 hours after onset.
G—e.	21	2nd.	99·4°–103·8°	1·5	April 10th.	–	—
M'A—s.	9	,,	99·2°–98·6°	1·6	March 5th.	–	Died on eighteenth day of disease.
D—y.	5	,,	Subnormal.	16·55	April 10th.	+	Died on third day.
N—e.	16	,,	97·6°–100°	1·2	March 23rd.	–	Died on third day of disease, meningococcus isolated from the blood by Dr. W. J. Wilson.
M—e (1).	7	,,	101°–102·4°	2·6	March 23rd.	–	—
M—ne (1).	7	3rd.	99°–98°	1·7	,, 26th.	–	—
A—n.	4½	,,	99·4°–104°	1·4	,, 26th.	–	Died on third day of disease.
R—n.	7	,,	96·6°–101°	16·7	April 4th.	+	Died on seventh day of disease, meningococcus isolated by lumbar puncture by Professor Symmers.
M—ne (2).	7	4th.	100°–98°	1·6	March 27th.	–	—
M'A—s.	14	,,	101·6°–100·6°	1·6	,, 11th.	–	Died on sixth day of disease.
F—e.	10	,,	102·4°–100·4°	1·2	,, 26th.	–	Died on fourth day.
R—y (1).	14	,,	99·4°–100°	1·2	April 4th.	–	—
L—n.	25	,,	100°–101°	6·8	March 22nd.	–	Meningococcus isolated by lumbar puncture by Professor Symmers.
H—n.	15	5th.	98°–102°	6·09	,, 27th.	+	—
K—y.	4	,,	98°–98·8°	0·4	,, 23rd.	–	Died on sixth day of disease.
F—l.	15	,,	101°–102·4°	1·5	,, 26th.	–	Died on thirteenth day of disease.
F—e (1).	10½	,,	99°–98·4°	14·04	April 5th.	–	(See below.)
B—er.	3½	6th.	99°–98·4°	30·0	March 18th.	++	Died on twenty second day of disease.
C—r.	22	,,	99·6°–99·6°	7·3	,, 26th.	+	Convalescent on April 1st.
H—s.	12	,,	101°–102°	26·4	April 4th.	++	Died on tenth day.
C—n.	3½	7th.	100·2°–99·6°	1·8	,, 12th.	–	—
M'G—y.	14	,,	99°–101·6°	18·7	,, 5th.	++	Died on eighth day.
S—h.	8	8th.	99·6°–101·8°	10·4	March 19th.	+	—
Ha—n.	9	,,	100°–102·8°	12·7	,, 19th.	+	Convalescent on March 28th.
M'I—y.	8	,,	98·4°–99·6°	17·0	,, 21st.	++	—
T—l.	16½	,,	100·2°–102°	11·4	April 4th.	+	Died on eighth day.
M—s (1).	12	,,	101·4°–102°	11·5	,, 5th.	+	—
R—y (2).	14	,,	99·4°–99°	66·0	,, 6th.	++	—
M—y.	—	9th.	—	5·8	March 9th.	+	Died on eleventh day.
M'A—r (1).	5	,,	98·2°–100°	30·5	,, 20th.	++	—
F—e (2).	11	10th.	102·6°–102·8°	25·25	April 10th.	++	Died on tenth day.
R—y (3).	14	,,	99·8°–100·8°	23·4	,, 10th.	++	—
B—n.	43	,,	100·2°–97°	42·2	,, 5th.	+++	Meningococcus isolated by lumbar puncture.
C—n.	25	11th.	97·4°–99°	6·9	March 27th.	+	—
R—d.	28	,,	100°–102·4°	22·0	,, 21st.	++	Meningococcus isolated by lumbar puncture. Died on twelfth day.
M—re.	8	,,	99°–101°	15·0	,, 21st.	++	Convalescent on April 9th.
W—er.	23	,,	98·2°–100·2°	7·9	April 12th.	+	—
R—y (4).	14	12th.	99·6°–101·4°	8·1	,, 12th.	+	—
M'A—r (2).	5	,,	97°–100°	29·56	March 22nd.	++	—
B—y.	34	13th.	100·4°–100·8°	7·3	,, 27th.	+	—
D—r.	6	,,	100°–104·4°	17·0	,, 18th.	+	Convalescent on April 8th.
M—s (2).	12	14th.	98·4°–99°	4·9	April 10th.	–	—
M—e (2).	7	15th.	Subnormal.	21·1	,, 5th.	++	Convalescent on April 1st.
M—o.	8	17th.	98·6°–100°	10·3	March 27th.	++	—
W—n.	11	,,	100·4°–101·2°	14·0	,, 15th.	+	Convalescent on April 3rd.
T—y.	3	19th.	100·6°–102°	4·7	,, 27th.	+	Died on twenty-ninth day.
M—y.	17	20th.	100·2°–100·4°	16·5	,, 23rd.	+	Convalescent on April 3rd.
B—y (2).	34	21st.	98·2°–98·6°	22·0	April 4th.	++	—
W—n (2).	11	,,	99·2°–100°	9·5	March 19th.	+	Convalescent on April 3rd.
B—d.	4	24th.	99°–101·2°	7·0	,, 21st.	+	Convalescent on March 29th.
B—d (1).	16	25th.	Subnormal.	4·3	,, 20th.	–	Convalescent on March 21st.
B—d (2).	16	27th.	,,	5·0	,, 22nd.	–	Recovery complete.
B—y (3).	34	,,	97·4°–97·8°	5·4	April 10th.	+	—
M—n (1).	6	33rd.	Subnormal.	9·0	March 11th.	+	—
R—y.	9	,,	97·0°–99·2°	7·0	,, 18th.	+	Convalescent
M'K—a.	5	37th.	97·2°–98·6°	6·4	April 10th.	+	Meningococcus isolated by spinal puncture by Professor Symmers; meningococcus isolated from blood by Dr. Wilson.
C—y.	3½	,,	Subnormal.	1·6	March 20th.	–	Convalescent on March 10th.
D—n.	13	39th.	,,	4·4	,, 21st.	–	Convalescent on March 17th.
M—n (2).	6	45th.	,,	9·1	,, 23rd.	+	Convalescent on March 15th.
N—n (1).	12	47th.	101°–98°	7·5	,, 9th.	+	—
N—n (2).	12	58th.	100·2°–98°	17·6	,, 20th.	+	Convalescent on March 21st.
N—n (3).	12	60th.	Subnormal.	21·7	,, 22nd.	+	Recovery complete

In only a limited number of these patients were cultures made from the cerebro-spinal fluid or blood. The positive results are given in the column headed "Remarks."

The chest was flattened in front but wide antero-posteriorly and on deep inspiration was raised as a whole, expansion being very slight. At the level of the nipples it measured in full inspiration 33 inches and in forced expiration 32 inches. The normal curvatures of the spine were diminished rather than increased and the spine was only a little more rigid than normal for his age. Both humeri were thickened and curved forwards and outwards; the bones of the forearms seemed curved with the convexity dorsal. These changes were more marked in the left arm than in the right. The bones of the hands appeared natural and there was no clubbing of the fingers. The femora were exceedingly curved outwards and forwards, the right rather more than the left. The tibiæ likewise were curved forwards and were very massive in their whole length and overhung the ankles. The antero-internal surfaces were very wide and the margins rounded. There was œdema of the shins with pitting on pressure. The curvature of the bones of the lower extremities caused a bowing of the legs so that the internal condyles were separated by three and a half inches as he stood with feet together. The distance from the anterior superior iliac spine to the internal malleolus was 31¼ inches on the right and 32¼ inches on the left.

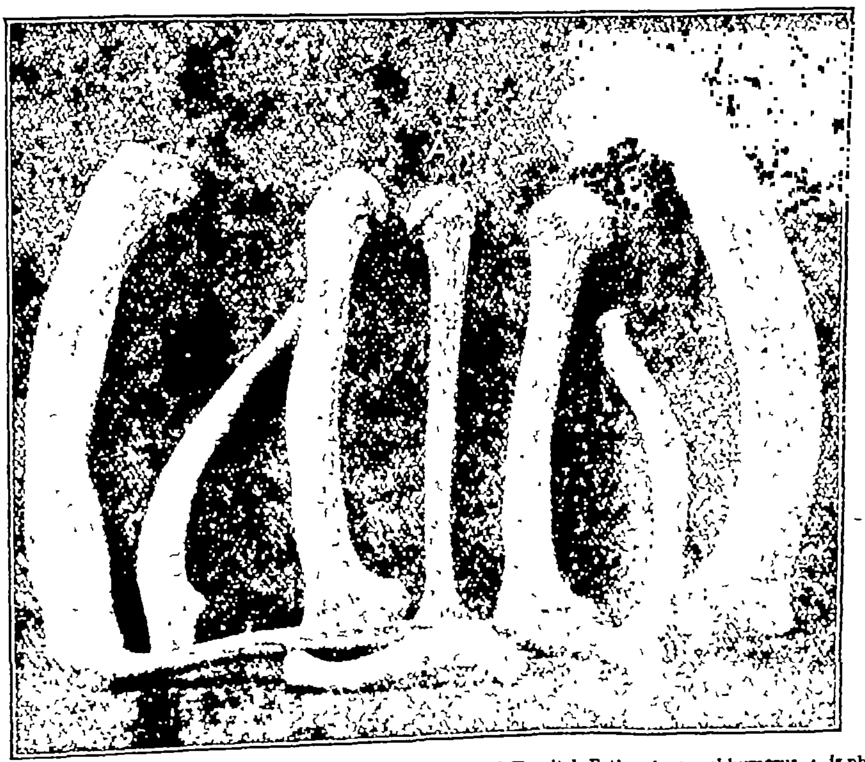
FIG. 2.



Skull and longitudinal section of tibia and humerus in the Museum of the Royal United Hospital, Bath. Typical osteitis deformans.

There was a crackling grating to be felt in the knee-joints on movement. The knee-jerks were present and not exaggerated. The pupils were equal and reacted normally to light and on convergence. There was a faint systolic murmur at the heart's apex not conducted to the axilla and the heart did not appear to be enlarged. The lungs were slightly emphysematous and whilst in hospital a cough developed and a few scattered râles could be heard in the chest, chiefly posteriorly. The abdomen was short and broad and crossed inferiorly by a deep sulcus. The liver and spleen could not be felt. There were double incomplete inguinal hernia and a hydrocele on the right side. The superficial lymphatic glands were not enlarged. His speech was slow and monotonous and his gait clumsy and waddling. The urine was clear and contained neither albumin nor sugar. The red blood cells numbered 3,416,000; the white cells 8000 per cubic millimetre. A differential count of the leucocytes showed: polymorphonuclears, 61 per cent.; lymphocytes, 24 per cent.; large mononuclears, 14 per cent.; eosinophiles, 1 per cent.; basophiles, none; and myelocytes, none. The x rays showed very beautifully the thickening and curvature of the long bones which had been discovered by inspection and palpation. The bones of the hands did not appear to be affected.

FIG. 3.



Bones from same collection of specimens in the Museum of the Royal United Hospital, Bath. A normal humerus, A, is photographed in the centre for comparison.

This patient's pains continued with varying severity during the seven weeks' course of hydrotherapeutic treatment that he underwent here but on the whole were not at all relieved. In a letter which I had from him in November he writes: "I am sorry to inform you that I feel the pains in my legs very much of a night; when I am lying in bed my knee-joints and my ankle-joints ache so much so that I scarce know where to lay them."

Sir James Paget[2] in a second communication on osteitis deformans five years after his first, having in the meantime seen seven additional instances of the disease, sums up his conclusions as follows: "In all the cases I have seen the general appearance, postures, and movements of the patients have been so alike that these alone might often suffice for diagnosis of the disease. The most characteristic are the loss of height indicated by the low position of the hands when the arms are hanging down, the low stooping with very round shoulders, and the head far forwards and with the chin raised as if to clear the upper edge of the sternum; the chest sunken towards the pelvis, the abdomen pendulous; the curved lower limbs held apart and usually with one advanced in front of the other and both with knees slightly bent; the ankles overhung by the legs and the toes turned out. The enlarged cranium, square looking or bossed, may add distinctiveness to these characters and they are completed in the slow and awkward gait of the patients and in the shallow costal breathing, compensated by wide movements of the diaphragm and abdominal wall and in deep breathing by the uplifted shoulders."

Professor Osler,[3] in the sixth edition of his "Principles and Practice of Medicine," mentions that about 67 typical cases are on record and that he himself has seen four. He says the disease is characterised by "enlargement and forward projection of the head, dorso-cervical kyphosis, prominence of the clavicles, spreading of the base of the thorax, a relative increase in the width of the hips, and an outward and forward bowing of the legs"—a definition taken from an exhaustive paper on the subject by Packard Steele and Kirkbride in the *American Journal* of 1891.

Except for the absence of kyphosis and forward projection of the head the case just related agrees very well with these descriptions and may be regarded as a typical example of the disease. In the case of some of the bones the x rays showed that the thickening and curvature were greater than had been suspected, and examination in this way might be of diagnostic value in the early stages of the disease.

In the Museum of the Royal United Hospital is a collection of bones which was presented by the late Mr. R. T. Gore, surgeon to the hospital, in the year 1863, nine years before Sir James Paget published the description of his cases. These were labelled, "From a man aged 60, the subject of rickets in early life," and comprise a skull, a scapula, clavicle, two humeri, a radius and ulna, femur, tibia and fibula. They show very typically the changes wrought by the disease which now goes by the name of osteitis deformans. The circumference of the skull is 58·7 centimetres and the distance from nasion to inion over the top of the skull 38·2 centimetres. The outer surface of the bones of the skull, including those of the face, is finely porous. In the region of the bregma there is a raised keel-like thickening of bone and there is a rounded boss on the vertex in the right occipital region. The lacrymal bones are missing. There are traces on the external aspect only of the coronal suture for about one and a half inches on each side. The fronto-malar suture is distinct but the other articulations of the malar bones have disappeared. The naso-frontal and naso-maxillary sutures are fairly well marked and part of the inter-nasal remains. With these exceptions all the sutures are obliterated. A horizontal section of the skull above the temporal fossæ and three and a half inches above the inion shows that the thickness of the bone varies from half an inch at the sides to three-quarters of an inch at the occipital end and in front of each temple. Towards the internal aspect the bone is dense and white, but towards the outer table it becomes in parts loose and friable. The facial bones do not appear to be much thickened and the orbital and nasal cavities are not encroached upon, though the hard palate and interior of the orbits are rougher and coarser than natural. Inside the cranium the bones do not present the fine porous appearance but the number of nutrient foramina is greatly increased and the grooves for the arteries are much deepened. The scapula and the long bones are much thicker and more curved than normally. As an illustration it may be mentioned that each humerus weighs more than twice as much as a healthy bone of the same length and the girth of the bone at its middle is four and a quarter inches, instead of the normal two and a half. The girth of the shaft of the femur at its middle is five and three-quarter inches and the bone is so curved outwards and twisted in its long axis that the upper and lower articular surfaces face in almost parallel directions. The shafts of all the long bones are white, nodular, and massive, and present an appearance of rugged strength and hardness which causes them at a short distance to look as though hewn out of stone. The nodules are in the main smooth and rounded, but in parts, as, for instance, the upper end of the humerus, are craggy and irregular. The nutrient foramina are increased in size and on close inspection numerous other foramina are to be seen, whilst in places, especially towards the extremities, are patches where the surface of the bone is finely porous. The articular surfaces and extremities are also increased in size, but not quite in proportion to the increased thickness of the shafts. Longitudinal sections of a humerus and tibia show that the medullary cavities are very irregular and dilated, that the cancellous tissue has almost completely disappeared from the ends of the bone, and that the walls of the shaft are dense and thick. In the museum there is also a portion of one radial artery from the same man showing its conversion into a rigid calcareous tube. Sir James Paget mentions that in the first case which he described "in the arteries of the lower limbs there was extensive atheromatous and calcareous degeneration."

Bath.

A CASE OF PRIMARY SARCOMA OF THE LIVER IN A CHILD AGED FOUR MONTHS.

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THE rarity of undoubted cases of primary sarcoma of the liver seems to us to warrant the publication of the present one. Arnold has recorded two and has collected the particulars of 26 other cases of possible sarcoma in the liver. The true nature of the majority of these is, however, as he has pointed out, extremely doubtful from the scanty clinical history given, and the absence in many of them of any record of a microscopical examination. Since the publication of the above article we have been able to obtain records of 11 other cases in which the examination of the tumour left no doubt as to its being a primary sarcoma of the liver.

The interest of the case recorded by us consists in the occurrence of an extensive and diffuse primary sarcoma of the liver in a child, aged four months, who was apparently healthy at the time of birth, but subsequently manifested signs of extremely rapid enlargement of the organ owing to the growth of the neoplasm, such as clinically to favour the diagnosis rather of an inflammatory condition than the development of a new growth. The history of the present case was as follows:—

A male child, aged four months, was admitted to Charteris Ward of the Royal Hospital for Sick Children, Edinburgh, on Sept. 10th, 1906, under the care of Dr. T. M. Burn-Murdoch. Swelling of the abdomen had been noticed previously for a fortnight, and although the child had been inclined to vomit since his birth, he was well nourished and healthy. He was the youngest of 12. A week before admission the abdomen was observed to enlarge rapidly and the child seemed to suffer considerable pain. He did not sleep well and constantly drew up his legs. On admission there was marked distension of the abdomen, especially in the upper part, the left hypochondriac region being somewhat more prominent than the right. The superficial abdominal veins were much distended. The temperature was normal, the pulse being 130. The abdominal circumference at the umbilicus was 52½ centimetres. An examination of the blood showed that the red blood corpuscles numbered 4,000,000 per cubic millimetre and the white blood corpuscles 24,000. There was no relative increase in any individual form of leucocyte. After admission the condition of the child became rapidly worse, the abdominal swelling increased, so that in three days the circumference measured 57 centimetres, and was associated with severe respiratory embarrassment. The liver extended downwards into the right iliac fossa, the lower margin of dulness passing from this position upwards and to the left below the umbilicus. A well-marked notch could be felt to the left of the umbilicus, which seemed to separate the left lobe from an enlarged spleen.

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[2] Transactions of the Royal Medical and Chirurgical Society, vol. lxv.

[3] The Principles and Practice of Medicine, [illegible], Appleton.

An exploratory laparotomy was performed on Sept. 13th, the abdomen being opened in the right linea semilunaris, above and below the umbilicus. The liver appeared of a purple mottled colour, soft and elastic in consistence, but homogeneous throughout. A trocar and cannula were pushed deeply into the liver substance through the two incisions on the right side, as well as through corresponding incisions on the left side. The enlargement, however, was solid throughout. The child died 12 hours afterwards unrelieved of his symptoms.

The clinical history and subsequent course of the child's illness suggested the possibility of the rapid enlargement of the liver being of an inflammatory nature. The exploration of the liver at the time of operation, however, seemed to point to the condition being one of a rapidly growing neoplasm.

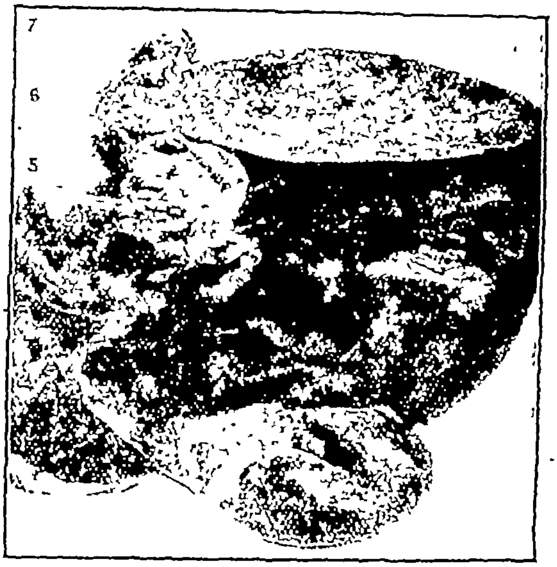
The post-mortem examination was conducted 20 hours after death. The body was that of a well-nourished male infant in which no rigor mortis was present. A trace of post-mortem lividity was evident over the dependent parts of the trunk and limbs. The abdomen was very much distended. The subcutaneous fat was normal in amount and appearance. On opening the abdomen a large mass, evidently the liver very much enlarged, was seen occupying the greater part of the abdominal cavity; it extended for five and a half inches below the tip of the xiphoid cartilage, reaching to within half an inch of the upper border of the symphysis pubis. In the right mammillary line it extended for six inches below the costal margin. The notch between the two lobes was situated in the left mammillary line. The spleen was not visible. The thoracic cavity was encroached upon, the upper limit of the diaphragm reaching to the fourth interspace in the right lateral sternal line. The serous covering over the anterior aspect of the right lobe of the liver was ruptured transversely in two places. The organ had a mottled appearance; dark livid coloured areas with darker points throughout were seen. These were of varying size and were mostly confluent. Where these areas were discrete they were seen to be separated by zones of yellow coloured tissue which possessed the characteristic appearance of liver substance which had undergone an advanced fatty change. On removing the organ it was found to have a uniform firm consistence and the upper surface of the right lobe presented an area irregular in outline and of a yellow colour similar to that described above.

On section the organ was found to be of a firm fleshy consistence. On examination the mottled appearance apparent on the surface was found to be explained by the presence of numerous nodules varying in size from that of a shilling to that of a crown piece. These possessed a central darker area of soft consistence which appeared to be due to hæmorrhage, and outside this a peripheral border of a slate grey colour with numerous red vascular points throughout it. The amount of liver substance recognisable on section was scanty, and this was evidently undergoing a fatty change and was being invaded and compressed by the surrounding nodules which were confluent in the greater part of the organ. The gall-bladder contained thin fluid green bile and the larger biliary passages showed no evidence of disease.

The thoracic viscera were found on examination to be healthy. The spleen was of normal size, structure, and appearance. The kidneys, except for the presence of some cloudy swelling of the tubules, appeared healthy. The pancreas and remaining abdominal and pelvic organs showed no evidence of disease. Examination of the cranium showed at the left inferior extremity of the anterior fontanelle a small nodule of the size of a pea situated in the diploë. The outer table of the skull was thinned over it, the inner table being also eroded considerably but not perforated. The contents of this cavity were of an opaque white colour and of a cheesy consistence. There was a slight increase of fluid in the subarachnoid space. The brain showed no evidence of disease on dissection. The lymphatic glands and bone marrow showed also no evidence of disease. At the conclusion of the post-mortem examination it appeared that the case was one of primary sarcoma of the liver of extremely rapid growth, with possibly a secondary focus of disease in the diploë of the skull.

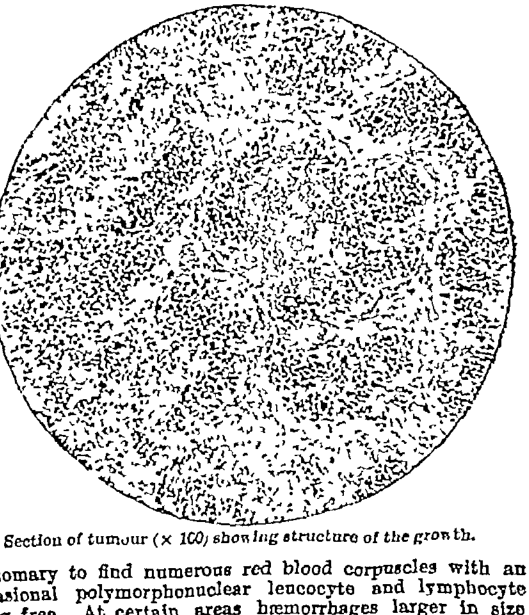
Microscopical examination showed the structure of the liver to be entirely absent throughout the greater number of the portions of that organ examined. The nodules of apparent new growth were seen to possess a stroma of delicate blood-vessels and fibrous tissue, with here and there a degenerating liver cell present and proliferating bile capillaries. In the spaces formed by the stroma numerous small cells were present. These were irregular in outline, being usually somewhat spherical and possessed a large deeply staining nucleus which occupied the greater part of the cell, the membrane of which could be made out only faintly. Between the cells a delicate fibrillary substance was apparent. In the centre of the space it was as a rule customary to find numerous red blood corpuscles with an occasional polymorphonuclear leucocyte and lymphocyte lying free. At certain areas hæmorrhages larger in size could also be seen. Evidence of active cell division was also very apparent, many tumour cells being seen in various stages of mitosis. No abnormal variety of cell division could be

Fig. 1.



Section through the right lobe of the liver showing the nodular appearance on the cut surface. The numbers to the left are a scale in inches.

Fig. 2.



Section of tumour (× 100) showing structure of the growth.

detected. At the outer margin of the nodules the cells of neoplasm extended by direct intercellular spread between the surrounding liver cells, the majority of which showed very advanced fatty infiltration and degeneration.

A microscopical examination of the other organs showed nothing especially noteworthy except in the case of the kidney, where the convoluted tubules and the ascending limbs of Henle showed cloudy swelling of their parenchyma. The glomeruli were swollen and contained a recent fibrinous exudate. Swelling of the endothelial lining of Bowman's capsule and an increase in the number of nuclei of the glomerular tufts were also apparent. The microscopical examination of the minute pea-like nodule in the diploë showed it to consist of cells which from their structure and arrangement indicated a chronic inflammatory focus with commencing caseation in its centre, such as would be explained by the effect of tuberculous disease. The microscopical examination of the liver confirmed the diagnosis made at the post-mortem examination of primary sarcoma.

The extreme rapidity of the growth of the neoplasm had been responsible for the retention of many of the interlobular septa and the formation of the stroma described thereby. The hæmorrhage present in the majority of these alveolar spaces is readily capable of explanation on the same ground. It is of interest that, despite the extreme rapidity of growth and the presence of many tumour cells inside blood capillaries in the liver, no secondary metastatic foci could be detected on careful examination by the naked eye and microscope. Whether the changes present in the kidneys indicative of a recent acute toxic absorption are to be explained merely as the result of a terminal infection or are due directly to the products of the neoplasm we do not at present intend to discuss. The appearance of the cells forming the tumour suggested that they were derived from connective tissue and their point of origin had been intralobular, the tumour being thus a true sarcoma and not, as de Haan has suggested, an endothelioma.

The points of interest in this case deserving special note are as follows. The occurrence of a primary round-celled sarcoma of the liver in a child aged four months. The rapid enlargement of the organ, as shown by an increase in the abdominal circumference at the umbilicus—an increase of 4½ centimetres taking place in three days. No associated emaciation, diarrhœa, or vomiting. A marked degree of infiltration of the whole organ by the neoplasm, the few liver cells which remained being in an extreme degree of degeneration. Jaundice and ascites were entirely absent. The late appearance of the clinical symptoms with such gross pathological changes is of interest.

So far as we have been able to ascertain only two recorded cases exist of this condition in children younger than the patient in the present case—namely, those of Heaton and Hewlett, whose patients were aged eight weeks and 14 weeks respectively. The clinical characteristics of these correspond very largely with the present case—namely, rapid enlargement of the liver associated with no other signs or symptoms. Necropsy in both cases revealed diffuse infiltrating sarcoma of the organ. Another case has been recorded by Lendrop, in which the child was four months old. It was also characterised by rapid development of abdominal swelling due to enlargement of the liver, which post mortem was found to have the appearance and structure very similar to that recorded by us. In his case, like the present one, the abdominal enlargement took place with special rapidity in the last two weeks of life.

Another case has been recorded with great accuracy and detail by de Haan. The age of the child was, like that recorded by us, four months. The clinical signs and symptoms were almost identical with those of the present case, the child being admitted with marked abdominal swelling. The liver could be palpated with ease, the lower border extending to the umbilicus. Extreme rapidity of growth took place after the child's admission to hospital so that the enlargement extended into the right iliac fossa in a fortnight. During this period, also, pressure symptoms on the diaphragm and thoracic viscera supervened. Exploration of the liver was carried out as in our own case, in the supposition that the enlargement might be due to the presence of an acute inflammatory condition. The child died four days after operation, the post-mortem examination revealing a diffuse neoplasm of the liver with no secondary deposits throughout the body. Microscopical examination showed numerous hæmorrhages, large thin-walled blood-vessels supported by connective tissue forming spaces filled by tumour cells, which he believed to be of endothelial or connective tissue origin.

The other cases, recorded by Bossowski, Tooth, Pert, Dudgeon, and others, occurred in older patients. The clinical characteristics of these correspond closely with those already referred to in the rapid increase in the size of the growth. Ascites, however, was present in one case, while a trace of jaundice was present in another. In only five of these recorded cases was, as far as can be ascertained from the literature, the lesion entirely confined to the liver.

The investigation of this case seems to show that from the clinical standpoint primary sarcoma of the liver in children, although of rare occurrence, presents definite characteristics, which, although simulating an acute infective condition of that organ, are sufficiently distinctive to warrant a diagnosis of a malignant condition being made.

Our thanks are due to Dr. Burn-Murdoch, senior physician to the hospital, for permission to publish this case, also to Dr. R. J. Mackessack, resident physician, for the photograph taken at the post-mortem examination.

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Edinburgh.

NOTE ON THE LIFE CYCLE OF THE PARASITE OF SLEEPING SICKNESS.

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AND

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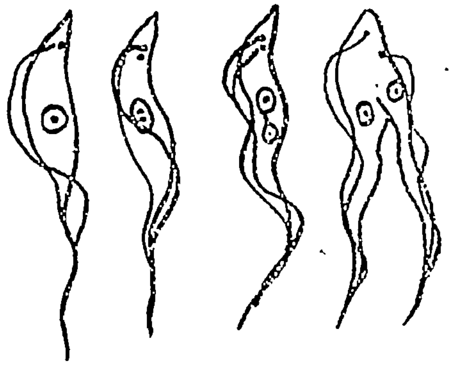
THE observations upon the life-history of trypanosomes to which we desire to call attention in this preliminary note relate chiefly to *Trypanosoma gambiense*. But in order to bring them into their true perspective it is desirable to refer briefly to certain facts already more or less familiar in relation to several other forms. In the case of dourine it is known that the disease can be transmitted directly from animal to animal, contact in this case being the normal mode of transmission. It is clear, therefore, that the life-history of any particular trypanosome need not be necessarily complicated by any transmission through two or more different hosts. The observations of Bruce seem to show that in the case of *Trypanosoma brucei* infected flies cease to be able to infect after 48 hours and it consequently follows that in this instance it is at least possible that transmission is only effected directly as in an ordinary inoculation experiment. *Trypanosoma gambiense* can be transferred directly from animal to animal for many years, the strain utilised in the present work having been propagated artificially for two and a half years. Consequently, if the sexual stage exists in the body of some other host, this stage can be altogether dispensed with for a countless number of generations.

In rats infected with *Trypanosoma gambiense* the disease runs a fluctuating course with respect to the number of parasites to be found upon examination of the peripheral blood. During its course there are a succession of periods when no trypanosomes are to be found in the blood at all. If the blood of rats infected with *Trypanosoma lewisi* be filtered through a Berkefeld filter it has been found to be capable of infecting other rats into which it is injected; though not conclusive in itself, this last observation directly suggests the presence in the infected animals of some minute form of the parasite not hitherto elucidated. During the phases of the infection of rats with *Trypanosoma gambiense* when the number of the parasites is *rising* in the peripheral blood we have encountered only amitotic division of the macro- and micro-nuclei, this process being accompanied by longitudinal fission of the animals. The double and unequal individuals produced, although often at first sight suggesting conjugation, we find to be much more readily explained as stages in the simple process of bipartition, no nuclear changes being seen at all suggesting conjugation as it appears in other protozoa.

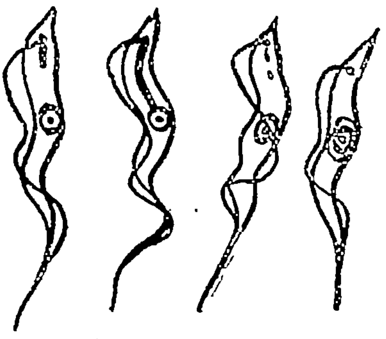
In the case of *Trypanosoma gambiense* we are unable to distinguish any marked dimorphism—the so called males and females of many authors, Prowazik, Minchin, and others, appearing to be arbitrarily chosen extremes in a continuous series of dimensions. As the increase in the number of trypanosomes in the blood proceeds towards any particular maximum we have encountered no other phenomena than that of fission worth recording. At the height of the maximum, on the other hand, numbers (from 5 to 20 per cent.) of trypanosomes may be found wherein a thick stainable band may be seen growing out from the micro-nucleus and extending through the animal's body towards the nucleus. It is at least twice as thick as, and quite distinct from, the stainable margin of the undulating membrane. This band extends backwards until it reaches or even passes beyond the nucleus. In some cases it enters directly into contact with the nucleus. In other cases it reaches the nucleus only indirectly, after passing round one or other side of this body. At this stage of the increase of the parasites in the peripheral blood the nucleus and the micro-nucleus thus become connected; at a subsequent period the connecting band disappears.

FIG. 1.



Stages in the growth and division of *Trypanosoma gambiense.*

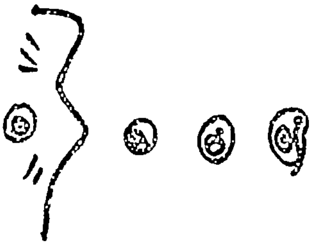
FIG. 2.



Stages in the formation of the "black line" and the "resistant body."

At the time the number of parasites in the blood is falling rapidly another series of phenomena may be encountered in the lungs, spleen, and bone marrow. Here we find trypanosomes in which the nuclei are surrounded by a clear space with a distinct margin encircling the nucleus. Along with these we find in the bone marrow and the spleen numbers of forms in which the body of the trypanosome has disintegrated and the flagellum, together with the remains of the micro-nucleus, is detached. The nucleus in these stages, together with the surrounding hyaline substance, however, remains intact. During the absence of the trypanosomes in the blood these bodies, which we term "resistant forms," undergo no further change. They undoubtedly correspond to the bodies figured by Plimmer and Bradford and erroneously regarded by them as the nuclei of a plasmodium. So, also, they equally unquestionably represent the so-called "free nuclei" described by Holmes[1] and apparently correctly regarded by him as a stage in the development of *Trypanosoma evansi.* During the negative period of the infection they appear to decrease in size, but at the time of the reappearance of the trypanosomes in the blood they are seen, however, to have grown considerably. At this period the nucleus of each resistant form buds off a small, micro-nuclear granule and from this at a later stage there grows out a flagellum.

FIG. 3.



Development of the "resistant body."

It appears, then, that from the spore-like resistant bodies, produced after the connexion of the macro- and micro-nuclei, small trypanosomes are formed directly and thus the life cycle begins over again. Starting from the resistant form the micro-nucleus originates from the macro-nucleus, and in the subsequent division (whereby both kinds of nuclei are indefinitely multiplied) there is a process which may be analogous to the separation of two kinds of nuclei destined to conjugate. A pair of such differentiated nuclei is retained in each trypanosome and unites during the period when the number of parasites in the blood is at a maximum. Viewed in this way the formation of the stainable band and the ensuing union of the substance of the macro- and micro-nuclei may correspond to a sexual act. In the parasite of sleeping sickness we have a life cycle which appears to be complete within the body of one animal just as in the instance of dourine. In this way it appears to be suggested that contagion may be only effected by a mechanical transference of blood in accordance with the results of Bruce in relation to *Trypanosoma brucei.*

Finally, we find when rats infected with *Trypanosoma gambiense* are treated with atoxyl that although large numbers of the parasites are rapidly killed, some become rounded, form a distinct membrane, throw off the flagellum, and apparently remain unchanged for a prolonged period.

It will be observed that the present observations upon *Trypanosoma gambiense* open up a wide field for further inquiry; but it should be pointed out that for these studies we have found it necessary to depart from the usual method of making dry preparations, and to utilise a mode of procedure whereby blood films, or "organ-smears," are fixed wet and afterwards stained and mounted in the usual manner.

The figures are from specimens fixed in Flemming's fluid and stained with a modification of the ordinary iron-alum hæmatoxylin, or with a combination of two basic stains.

ON THE EFFECT OF THE EXPOSURE TO TOBACCO SMOKE ON THE GROWTH OF PATHOGENIC MICRO-ORGANISMS.

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THE belief that smoking decreases the risk of contracting the infectious diseases is so widely held that all whose work provides opportunity for meeting men exposed to the danger must have noted the hurried lighting of a pipe or cigar immediately after any such exposure. One is appealed to frequently to give an opinion as to the efficiency of the procedure and as some references in medical literature gave vague support to the belief, I began a series of experiments to determine the bactericidal power of tobacco smoke. I am indebted to Professor S. Delépine for the helpful suggestion that it would be well to compare the effect of smoke from some dried vegetable matter not containing similar toxic organic bodies; hay was selected for the control experiments. I may say at once that the smoke from both tobacco and hay was found to be bactericidal. The apparatus used will be readily understood from the illustration. A is a large pipe bowl. B is a sloped nutrient agar tube with a side tube let in and during the experiment a perforated rubber bung with glass tube replacing the cotton-wool plug. After the experiment the rubber bung and the rubber tube shown attached to the side tube were removed and replaced by sterile cotton-wool plugs. C is a large glass syringe used to draw air through the apparatus.

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[1] Journal of Comparative Pathology and Therapeutics, 1904, p. 213.

The method of experiment was as follows. A tube such as shown in the illustration and a plain nutrient agar tube as a control were inoculated from the same pure culture. A having been filled with the substance to be burned, the rubber tubes were connected and a light applied to A. The syringe was then worked and smoke came readily through the tube B. A timed exposure, five minutes, of the inoculated tube to the smoke having been given, the rubber tubes were disconnected, cotton-wool plugs replacing them, and the tube B and the inoculated control tube were placed in the incubator and observed.

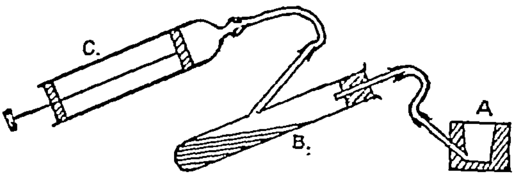

Diagram of arrangement for aspirating tobacco smoke over a culture.

There may seem at first sight considerable danger of air contamination. This, as a matter of fact, only occurred once. The organisms tested were: bacillus diphtheriæ, bacillus typhosus, bacillus coli communis, staphylococcus pyogenes aureus, and on one occasion a streptococcus isolated from the blood of a case of scarlet fever. All the experiments were repeated five times, with the exception of those on the streptococcus. The tobaccos used were of different kinds from a cheap navy cut to one of the more expensive mixtures. No difference was observed in their action. They were well dried and about one-twelfth of an ounce was used for each tube. The exposure of each tube was five minutes. All the control tubes grew typically and when growth occurred in the smoked tubes films were made and the organism examined to eliminate error from contamination.

The results observed in the smoked tubes may be summarised as follows:—1. The bacillus of diphtheria was always markedly affected. Sometimes it failed to grow at all, but in some cases there was a slight growth. This was the case both with the tubes smoked from tobacco and with those smoked from hay. 2. The typhoid bacillus grew but very much less than in the control tubes. In some instances there was no macroscopic growth at the end of 24 hours. 3. The bacillus coli communis grew fairly well though distinctly less than the control tubes. 4. The staphylococcus pyogenes aureus was hardly affected except in one experiment with smoke from hay. 5. In the experiment made with a streptococcus no growth took place in the smoked tubes. I have therefore come to the conclusion that tobacco smoke as drawn into the mouth is very probably detrimental to the growth of some pathogenic organisms, but not more, indeed rather less so, than smoke from other sources. I should like to make it clear that I state this simply as a fact observed and not as an argument in favour of the use of tobacco.

The following paragraph from Rideal's book[1] on disinfection refers to experiments on the subject. "It is recorded that Tessinari found that tobacco smoke, on being passed through tubes containing a nutrient gelatine and pathogenic germs for from 10 to 30 minutes destroyed the bacilli of Asiatic cholera and of pneumonia. Tobacco smoke passed through water killed the yellow bacillus." Trillat[2] has made a very large number of experiments on the disinfecting power of various smokes, including that of tobacco. His work has been chiefly chemical. He attributes the action to formaldehyde, the smoke from 100 grammes of tobacco yielding 0·063 gramme of formaldehyde. Cigars gave a much higher result—0·118 gramme from the 100 grammes. I have recently come across an interesting pamphlet[3] written 50 years ago, the writer of which writes enthusiastically in favour of tobacco, and in his introduction asks: "Shall we seek and ultimately find an explanation in the undoubted existence of countless millions of microscopic animalculæ which surround and penetrate us on all sides—agents of disease, whose more visible congeners we so easily exterminate for a time by the aid of fuming narcotics, especially tobacco?" The introduction to the pamphlet is a very spirited reply to a paper condemning the use of tobacco by Mr. Solly in THE LANCET of Feb. 10th, 1857.

I am much indebted to Professor Delépine for his suggestion, and to Dr. A. Knyvett Gordon, medical superintendent of Monsall Hospital, Manchester, for permission to use the hospital laboratory and publish the results.

Manchester.

THE USE OF ANIMAL BLOOD SERUM IN SURGERY: PRELIMINARY NOTES.

BY W. STUART-LOW, F.R.C.S. ENG.,
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FOR some time I have been employing a method of dressing wounds that has long passed from favour with surgeons—viz., the use of oiled silk as a dressing coming into intimate contact with the healing surface. If the healing process is hanging fire and the wound is ready to heal but will not, either from some surface sepsis or from mere sluggishness of circulation and healing action, it is remarkable how soon with the immediate oiled-silk dressing improvement begins. I have watched this over and over again. In one of the first cases in which I resorted to the oiled-silk dressing the change for the better was very marked indeed. A young man on whom I had performed an extensive operation for acute mastoiditis, opening a large Bezold's abscess low down in the neck, made a very satisfactory recovery up to a certain point. The mastoid bone had been nearly completely ablated, with the result that at the end of three weeks a very large and deep excavation remained, which stubbornly refused to heal over, and where healing did occur it rapidly gave way again every few days. On applying the oiled-silk dressing the parts rapidly came under healing action, with a result that in a week what had been quite recalcitrant to every agent used was completely healed over with sound cuticle.

A number of such cases impressed me very much. In endeavouring to explain the reason why I came to the conclusion that it must be the blood serum (or lymph) and the assistance given to the surface circulation. Dry dressing in contact with a healing part absorbs the normally exuding serum and becomes adherent to the growing tissues, and thus blocks the exudation and therefore the surface circulation and dries the granulations. The oiled silk does not, but allows a constant exudation of serum from the surface vessels, and being itself non-absorbent keeps the wound always bathed in serum. Such a surface serous bath prevents sepsis and aids superficial circulation in the healing region. In the one case the growing tissues are continuously having the blood serum sucked from their surface, whereas in the other case this is not so, there being always a layer, even though sometimes only a thin one, of blood serum maintained upon the healing area. It is proverbial in surgery that too dry wounds do not mend well and this, I venture to think, is the explanation. One naturally asks why such a dressing as an oiled-silk protective ever went out of favour but the reason is not far to seek. It cannot stand sterilisation by boiling or immersion in spirituous or strong antiseptic solutions, and it therefore soon fell under the ban of most surgeons. I simply wash the protective in sterilised water or in boric solution before applying it over the wound; it is not necessary to do more, because the blood serum and lymph that rapidly collect under it keep the wound sufficiently aseptic.

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[1] Disinfection and the Preservation of Food, by S. Rideal, 1903, p. 255.

[2] Annales [illegible] t Pasteur, 1905, vol. xix., p. 722.

[3] Tobacco: Its History, Cultivation, Manufacture, and Adulteration, by Andrew Steinmetz, 1857.

Having observed and reflected upon these facts about wounds and studied the theories on opsonins and the wonderful practical application of them by Sir Almroth E. Wright, I argued thus. If so much depends upon the blood serum, why not try to increase the amount of it in and about healing parts by employing animal blood serum as the fluid with which to sluice, to irrigate, and to dress wounds? Pure healthy blood serum would seem to be ideal for this purpose, as it is essentially non-irritating and, in fact, has a soothing, cooling effect on injured parts. It is alkaline in reaction and from albuminous matters held in solution has a slight viscosity that gives it to a considerable degree air-excluding, and to a lesser degree adhesive, covering and protective properties which are all conducive to healing. It is now admitted by all pathologists, too, that normal blood serum possesses restraining influences on bacterial growth because of the antibodies it contains, and Sir A. E. Wright's researches have proved that blood serum also contains those substances which have the marvellous power of preparing micro-organisms for ingestion by the white blood corpuscles—viz., opsonins.

Here, then, in normal blood serum we have, I think, the best substance and the natural substance for perfect and rapid repair of wounds. The chief objection to even mild antiseptics has ever been that they have always some degree of irritative and devitalising effect on the tissues and there is no certainty that micro-organisms are destroyed by their action. Indeed, there is little doubt but that the beneficial action of some antiseptics, and probably also of some aseptics, such as normal saline solution, consists in the fact that they do irritate the tissue and in this way ensure an increased outflow of serous fluid and stimulate the circulation about the healing parts. To supply the blood serum without applying the irritant ought to be better. But the researches of Sargent and Dudgeon have shown that wounds healing by first intention are not bacteria free, and it is quite possible that certain micro-organisms may be necessary to perfect union. Therefore, such a substance as blood serum, which inhibits but does not arrest all bacterial growth, would seem to be the most suitable.

For the purpose of putting these views to the test I obtained a quantity of fresh blood from the butcher, which had been poured directly from the incised aorta of a young, fat, healthy, two-year-old sheep into sterilised vessels. The blood was kept in air-tight glass jars for two days and, coagulation having taken place, the blood serum was then drawn off and secured in smaller sterilised glass air-tight jars. I am still doubtful how long to leave the serum in contact with the blood-clot, but the longer they remain together the darker the serum becomes, which is doubtless due to the hæmolytic action of the serum on the red blood corpuscles. I think what I have found to be the best serum for my purpose has been that which I syphoned away from the clearer collection at the top of a tall cylindrical vessel. I now have a supply of fresh blood every three days, and remove the serum every other day into the smaller, more portable, glass jars which I carry with me to operations. If the success of others employing blood serum is as great as in the cases in which I have employed it, it may be that in the future normal serum may prove as useful and be as commonly placed ready to hand in our operating theatres as normal saline solution is at present.

It is mostly in ear cases that I have used blood serum. It seems particularly well suited for such, as there is so much bone excavation which leaves a dry as distinguished from a weeping wound. Desiccation in a wound is generally inimical to ready repair and this has been successfully avoided when blood-serum dressing has been employed. In every instance the soft structure healed by first intention. There was a singular absence of pain all through the time of recovery and the epidermisation in the ear cases seemed to proceed more quickly than usual.

Welbeck-street, W.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The annual general meeting of this association will be held in the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, London, W., on Tuesday, May 7th, at 4 P.M. Tea and coffee will be provided at 4.30 P.M. At 5 P.M. a meeting will be held, open to all medical practitioners and students on presentation of visiting card, at which Professor G. Sims Woodhead, president of the association, will give an address on the Medical Justification of Total Abstinence.

THE BALNEOLOGICAL TREATMENT OF URINARY DISEASES.

By DR. OSCAR KRAUS.

(Concluded from p. 1153.)

I WILL now deal with the question, when can Carlsbad treatment promise a success and when ought surgery to assert its rights. The answer is not difficult. The progress in Roentgen technique has now made it generally possible, except in cases of very obese persons, to locate even small stones, especially if a compression-cylinder be used. The largest calculi that we ever saw passed through the natural passages in an attack of renal colic were of about the size of an almond (they are still in our possession). These were passed by a woman. Whether still larger stones have by any means a favourable chance of traversing the urinary passages without stoppage is questionable. At any rate, in the case of a man we should consider an operation indicated as soon as this size seems from the reduced radiogram to be considerably exceeded, or if the general symptom-complex seems to demand removal of the stone. If the Roentgen examination be negative, or if the calculi be no larger than the size given above, it is proper to try the Carlsbad method. This treatment is by all means indicated *after* an operative procedure, in order to flush out the smallest particles, which can never be completely removed at a nephrotomy—particles like the gall-sand at a gall-bladder operation. The treatment is indicated after operation for the additional purpose of combating the catarrh of the urinary passages, especially that of the renal pelvis, and thus to guard against a new stone formation around the secreted mucus as a nucleus. Moreover, the influence of the basic water in the urinary acidity, when the case is of the acid variety, is to be desired. But even where this factor is not present, as in cystin stones, we may often note the useful effect of the mechanical washing-out of the particles. I well remember a patient several years ago on whom Zuckerkandl had done a nephrotomy; she came from the sanatorium directly to Carlsbad and there passed large quantities of cystin sand and made a quick recovery.

We now come to the discussion of a class of patients who are continually being sent to Carlsbad—namely, those with stone in the bladder. Such patients ought to be sent to a mineral spring *after* a lithotripsy or a section has been already performed, and as soon after as they can be moved. Nowhere else will they so quickly lose the cystitis which is usually present, nowhere will they recover so rapidly, as under the hygienic *régime* and in the open-air treatment of a watering-place of this kind. The stimulation of urinary secretion and the regulation of the digestion never work so quickly and so beneficently as in these cases. Such patients are the most grateful that we see at Carlsbad, whether the concretion was uratic or phosphatic. I have in every such case observed a very considerable elimination of sand—urate, phosphate, oxalate, or even cystin sand. I must emphasise again that this is not only and not always a case of purely chemical processes but of mechanical and biological as well, processes which, of course, I need not here discuss. I can say but one thing with certainty: urates are not "dissolved" by Carlsbad water. Small stones are swept out and the formation of new calculi prevented by the increase in metabolism. Large stones must be removed surgically, whether from the renal pelvis or from the bladder. Patients should be informed on this point, so that they will not demand the impossible. Occasionally, patients come to Carlsbad without the advice of a physician in the hope of avoiding a lithotripsy. That is, of course, foolish. The stones, as we have said, cannot be dissolved. But when the stones are moveable, such a one may become impacted as a result of the long walks or of the railway journey itself. The same is true of kidney stones. I shall never forget a case of a young man who was sent to Carlsbad a few days after an attack of renal colic and before the expulsion of the stone. An hour after the departure from Vienna the stone left the bladder, but not being able to pass the orifice of the urethra it remained there until evening. I need not dilate on the sufferings of the poor man during the eight-hour journey. On his arrival I had to do a meatotomy in order to extract the almost almond-sized concretion with the forceps. Therefore one should always await the passage of the stone after an attack of colic before a journey is allowed.

Here also belongs the case of an old man who came to Carlsbad with a calculous cysto-pyelitis. He was very wretched and debilitated, with persisting fever and hæmorrhages, and his progress toward recovery was very slow. When the cystitis had somewhat improved he passed, as he had repeatedly done before, 15 or 20 calculi, either at home or in the course of walks, and quite without difficulty or pain. These were characteristic stones from the pelvis, either perfectly round or slightly faceted. In spite of this his slight symptoms, chiefly some strangury and frequency of micturition, would not yield. Cystoscopy showed the presence of a small stone in the bladder, which I removed by means of the aspirator. It would be worth while to recommend that after every attack of renal colic the patient should be cystoscoped as soon as the slightest indication arouses the suspicion that the stone was not passed. It need not be pointed out how well these small concretions are qualified to form the nucleus of a vesical stone, particularly when, as in this case, the folds of a *vessie à porte-feuille* tend to imprison the stone. Occasionally patients with a stone are sent to a watering-place to be healed of their cystitis before operation. That is, of course, so much pains wasted, for as long as the stone is there the *fons et origo mali* is not removed and the bladder cannot be healed.[1] After operation, however, the case is quite different. As soon as patients can be moved they ought to "flush themselves out" diligently and lose their cystitis if such be present. By stimulating the peristalsis and loosening the bowels the circulatory disturbances in the pelvis are relieved; by increasing diaphoresis (with baths, &c.) and diuresis the toxins are eliminated and "urinary" fever is most successfully combated.

In this connexion we come to a condition about which a few remarks are called for. This is the so-called *uric acid diathesis*—an affection which seems to have increased prodigiously in recent years. Exactly what, then, is this uric acid diathesis? I have taken the trouble to make inquiries on this point among a number of excellent physicians and surgeons for the simple reason that I have myself never seen a morbid type which would answer to this title, and I saw from their answers that they also were rather at a loss to make a definite statement. We often see the report in our uranalyses of a "heavy uric acid sediment" or "increased uric acid in the sediment," and this in the case of a patient who has nothing wrong with him but for a few more or less imaginary complaints. The conditions governing the solubility or insolubility of certain normal urinary constituents, such as the urates, the phosphates, uric acid, are not known certainly. Why is uric acid sometimes precipitated from solutions and sometimes not? And why the phosphates? How does it happen in one and the same individual that the taking of carbonated drinks at one time causes a cloudy or milky urine and at other times not? We are only too far as yet from understanding these most intimate metabolic processes, processes which are certainly not purely or wholly brought about by chemical conditions. To be honest with ourselves we must admit that we know little more about the conditions under which uric acid is precipitated from the urine than that it happens regularly in the cold and also in circumstances which we are not able to explain satisfactorily. On this point the most trustworthy investigators are united; reference may be made among others to a piece of work by Ritter.[2] Uric acid precipitates for unknown reasons from the urine of sufferers from arthritis or other diseases, but it also often does the same in that of healthy individuals, without any increase in the total acidity or in the content of uric acid. Moreover, the uric acid often precipitates without our being in a position even to draw any conclusions from the fact. We know, in short, as little about this as we do about oxaluria and phosphaturia or about the alternation of oxaluria with uraturia or of phosphaturia with uraturia in the same person. All explanations which have been offered are unable to stand the test of criticism. We do know, however, that it is impossible to speak of an absolute or even of a relative increase in uric acid excretion without a complete examination into the metabolism based on comparative data for the same individual, and especially without taking account of the diet. To speak of "increased uric acid" in the sediment is nonsensical because we do not know the conditions of uric acid precipitation in health, or, in other words, what the "normal" amount of uric acid in the sediment is. However, what the apothecary or chemist reports as uric acid is usually amorphous sodium urate, often mixed with a few small whetstone-shaped uric-acid crystals. Practical experience has taught us that this appearance has no significance whatever, either clinically or pathologically; on this point I know that I am in agreement with clinicians of note. One of these, Dunin, to whom we owe, among many other excellent researches, that paper on the relation between habitual constipation and neurasthenia, made this very question the subject of an investigation and comes to conclusions similar to ours. Unfortunately, the paper was written in Polish and is thus only accessible in reviews.[3] The principal theses are the following: 1. The existence of an arthritic diathesis after the meaning of the French authors must be emphatically denied. 2. It is not proved that metabolism is at all slowed in diseases of this category. 3. From the superficial uranalyses as usually made in practice far-reaching conclusions, and especially diagnoses of "arthritism," are quite untrustworthy. 4. The supposition of a uric acid diathesis seems, in view of present knowledge, to be unwarrantable. 5. The significance of uric acid in the etiology of arthritis and of renal calculus is to be regarded at present as unknown.[4] Among the many cases which we have been able to follow with care during the last 18 years, we have found none where increased uric acid in the sediment had any meaning. On the other hand, we have again and again found for years before the appearance of calculi those characteristic large dumb-bells and the pointed forms of uric acid crystals to which Ultzmann in his lectures attributed a premonitory significance. We have always remembered particularly two cases where we achieved some renown as a prophet by cherishing this remark of Ultzmann.[5] But these are only the premonitory signs of gravel.

There are no objections to be made on principle to the introduction of synonymous but relevant new terms, although the clearness of the conception rarely gains thereby. We know that the coronary asthma of to-day, the stenocardial attack of yesterday, and the angina pectoris of our fathers are one and the same. And so I have myself here and there made use of the expression "uric-acid diathesis" because it was the fashion. But I should like to propose dropping it for good and all, as we have dropped the "herpetic diathesis." They simply do not exist. But even if we do not recognise a uric-acid diathesis we do know the arthritis urica and gravel. Both lead to a deposition of urates in the organism. I described a symptom ten years ago in a communication to the Paris Académie de Médecine,[6] which I called "pollakiuria urica," a symptom which in itself may constitute a complete morbid condition. At that time I referred to the fact that the majority of persons who show crystallised uric acid in their sediments are not sufferers from pollakiuria, but that in certain cases where changes exist in the neck of the bladder region or the prostatic urethra, themselves incapable of causing a pollakiuria, the paroxysmal excretion of large amounts of uric acid, especially in the form of pointed crystals, can produce a pollakiuria of high grade. Such paroxysms of uric acid excretion are not rarely seen in patients with arthritis, and if this excretion can be made to disappear by the administration of alkalies and other proper treatment, as, for instance, at Carlsbad, this distressing symptom will disappear as well.

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[1] Latterly, it has become rather the fashion to undertake stone-crushing operations at watering places. I am of the opinion that this is not advisable, since such a patient should not be asked to take a long journey. Nowadays, when surgical practice is no longer a prerogative of the few elect but has become fairly general there can be found in every large city, and in many of moderate size, men who can perform such an operation faultlessly and under the best of external conditions, in good nursing homes. The patients need not be carried far, and we do not see any reason why patients should need to be in a hospital or doctor's home at a watering-place, if they can get no benefit from balneological treatment, even of the best. Allow me to speak at this point of a curious "fashion" which has lately appeared among patients with concretions—namely, that of going every year or two years to a water cure "to have their stone, which has formed again, crushed." There are, as a matter of fact, people whose excretion of urates or phosphates is so rapid that relapses do occur—after a long period, rarely after a short one. But when we hear that certain operators perform crushing operations regularly every year or two for a considerable number of their patients, we are moved to recommend them that they heed Guyon's advice and "carry the crushing to its utmost limits," and further, on no account neglect the "verifying examination" (Clinical Lectures, German edition by Oscar Kraus and Otto Zuckerkandl, vol. iii., pp. 328 and 372). If this were done their cases might show a considerably diminished number of relapses. We know that genito-urinary surgeons of prominence share our view. That it is reasonable is perfectly evident. Only small fragments can go through the aspirator or be spontaneously passed. For this reason the old Bigelow method has been losing favour, because in this the crushing is made of less importance than the evacuation. The surgeon who wishes not to leave fragments behind to cause relapses will crush the stone to the smallest possible atoms. Bladder irrigation and stimulation of diuresis will wash out the last particles, and it is just here Carlsbad may assert her rights in the after-treatment of a litholapaxy.

[2] Zeitschrift für Biologie, Band xxv., No. 17.

[3] Gaz. Lekarsko, 1900, No. 43.

[4] Cited from Ziegler-Kahlden's Centralblatt, March 28th, 1901.

[5] I have spoken of one of these cases in another publication (Report of the Meeting of the Paris Académie de Médecine and Annales des Maladies des Organes Génito-urinaires: La Pollaquiurie Urique, Nov. 23rd, 1897). This case was one of diabetes. Since my communication before the Académie de Médecine the patient has been obliged to have a small stone crushed. The other case was of a man who had been sent to Carlsbad on account of enlarged liver. I advised a change in his manner of living and threatened him with renal colic and vesical stone. Both made their appearance: first the colic, and two years later I discovered a stone in his bladder myself. In both cases the above-mentioned pointed uric acid crystals had shown themselves for years before. In the first case the etiology of the gravel, as is so unfortunately common, was the diabetes, the nitrogenous diet, and the lack of exercise due to an ankylosis of the hip after a fracture of the neck of the femur.

No less a man than Sir Henry Thompson[7] writes as follows concerning the effect of Carlsbad treatment on uric acid excretion:—

> Now, the principle upon which the waters of the sulphate of soda group, aperient and non-aperient, are beneficial is, that they produce activity in all the digestive functions, stimulating the excretory action of the abdominal organs, so that certain waste matters, which have hitherto been thrown out as uric acid by the kidney, are eliminated in some other form. If, therefore, it is really desirable to recommend resort to a mineral spring as treatment for uric acid deposits, I should prefer Carlsbad, and certainly never send a patient to Vichy, Vals, Evian, or Contrexéville. And when a stout active man, whom it is most desirable to separate from his home engagements and business cares, requires a Carlsbad course, he may often visit the locality with advantage.

In our discussion thus far we have repeatedly touched upon the subject of *cystitis*. It is one of the most gratifying for thermal treatment. Under the influence of the drinking and bathing an acute, non-gonorrhœal cystitis usually recovers quickly without any local treatment. Those forms are especially often seen here which occur in connexion with gravel, apparently due to the insult to the mucous membrane from the uric acid concretions. Such a urine is, as is well known, acid, contains red and white blood corpuscles, pus cells, bladder epithelium in small quantities, and fewer or more of the pointed forms of uric acid crystals. Chronic cystitis with amphoteric or alkaline urine must of course be treated locally. But it is just here, and especially in the more stubborn forms, that the balneological treatment shows its value. I think it will be conceded that usually, in beginning local treatment, a physician cares relatively little for the systemic, that he confines himself to forbidding certain articles of food and drink (alcohol, spiced foods, &c.), and is usually not in a position in the city to prescribe at the same time mineral drinks and therapeutic baths. But it is most of all in connexion with chronic vesical catarrh that the value of this part of the treatment as adjuvant to local measures is under-estimated, as our practice testifies. Here the increase in metabolism performs great services—indeed, it often works miracles almost. Just what we imply by this increase in metabolism we have elsewhere discussed.

We must characterise as categorical and illogical that dogma which is too often voiced, "alkaline urine, *ergo* no alkalies, *ergo* no Carlsbad." The urine is alkaline in the "alkaline cystitis" because it contains pus and is in a state of ammoniacal fermentation. If this pus and fermentation be removed by local and general treatment the alkalinity of the urine disappears *ipso facto*, and, paradoxical as this may seem, an alkaline cystitis never responds so well as under the influence of alkalies, especially those of the sulphate springs; these open all portals for the escape of the toxins of the colon bacillus and the rest. On the principle "when all else has failed, try Carlsbad" a great number of old protracted cases of cystitis are directed to Carlsbad. The people in question are the most grateful of our patients. In this class are those forms of old chronic cystitis which need constant or very protracted treatment, which are complicated with prostatic disease of high grade, strictures, &c., and are accompanied by the remote symptoms of chronic uræmia. The *sonde à demeure* has been recommended for such cases to drain the bladder constantly. I must say that in general I am not an advocate of this method, for the permanent catheter requires the patient to stay in bed, and thus the already insufficient digestion suffers and the recumbent attitude favours hyperæmia of dependent parts, the prostate, the bladder, and the other pelvic organs The inactivity gives the metabolism and so the impulse to recovery another set-back. Here the open-air treatment shows to advantage and we may meet the indications for thorough bladder drainage just as well if we have the patient catheterised for every micturition—i.e., at least four times daily and once or twice at night—of course, with all aseptic precautions—and allow him enough outdoor exercise to stimulate the digestion and to meet the need for fresh air, a need that should not be underrated in such cases. In this way there can be no considerable stagnation of urine and the bladder is washed once or twice daily with boric solution (or with Mühlbrunn or Sprudel water) and silver nitrate injected or instilled as well.[8] The fresh-air treatment is important for these patients, as I have already stated, so also are the baths, the massage, in some cases carefully selected light gymnastics, the *régime*, the stimulation to the digestion, and last, but not least, the flushing out of the urinary passages with sulphated alkaline waters. In the management of chronic diseases and of those of metabolism all possible curative agents must be called upon to enhance the effect of the drinking and bathing treatment.

We cannot refrain at this point from citing a remark by that keen medical thinker, F. A. Hoffmann. He says:[9] "The great value of the Carlsbad treatment, which we are constantly prescribing, is so far from clear scientifically that one would lay himself open to the charge of phantastic theoreticism if one were to say anything definite on the subject." In fact, Carlsbad practice yields results which had better be taken thankfully and without racking the brains over the *cur quo modo*.

Hypertrophy of the prostate is seldom the subject of treatment unless it is associated with obesity, chronic arthritis, or especially with chronic constipation. In the first stage, when periodical feelings of pressure or fulness and the irritation in the rectum are the only complaints, a simple course of drinking and bathing, or of the former alone, will benefit without other adjuncts, without even prostatic massage. Here the case is usually one of paroxysmal congestion of the gland coming on under the influence of stasis in the lower pelvic organs. As soon as order is restored by regulating the digestion the complaints disappear. In such an aseptic case the introduction of an instrument should be avoided. On the other hand, where there is a large quantity of residual urine, where the impediment to the outflow is really considerable, one cannot too industriously drain, wash, and, as Guyon expressed it, "modify" the mucous membrane of the bladder. This is no place for a dissertation on prostatic hypertrophy, but we may say this: that the greatest effort should be made to prolong the first stage, or, in other words, to put a catheter into the patient's hands as late as possible. If the operation is indicated one must not wait until ascending processes have made the prognosis unfavourable. Such processes lead to the signs of chronic uræmia, which we have already fully discussed. All these patients catch cold easily, therefore especial caution must be observed; and since a "cold" is by no means a small matter for people with chronic urinary trouble they should be sent to a watering-place only in a favourable season. In the cold spring of 1905 I had the opportunity of seeing some particularly unpleasant instances of this. I shall always remember one case of an old gentleman with a tremendous enlargement of the stomach, with atony, an old cystitis, and prostatic hypertrophy. The treatment of the last-named was being postponed on account of the wretched general condition. After starting treatment the digestion improved, the stomach-tube, a necessity hitherto, was dispensed with, and the weight increased. Everything looked bright. Then the old man caught cold and the symptoms of acute prostatic congestion came on, with fever, with exacerbation of the cystitis, which, of course, worked back on the gastritis, producing vomiting, singultus, anorexia, and prostration. The clinical picture became so threatening that I felt myself fortunate when the treatment of the bladder, which I then had to begin, had after a few days removed the imminent danger. To such cases the experienced urologist is no stranger.

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[6] Session of Nov. 23rd, 1897.

[7] Diseases of the Urinary Organs, eighth edition, 1888.

[8] The irrigations are best performed by means of the irrigator and use may well be made of a two-way tap. I demonstrated an aseptic model of such a tap in February, 1907, before the Gesellschaft der Aerzte in Vienna. It may be obtained of H. Reiner in Vienna.

[9] Von Leyden: Handbuch der Ernährungstherapie, second edition, 1903, p. 481.

This brings us to a class of patients whom Guyon denominated as "faux urinaires," which could be translated as "pseudo-urinary" cases, though the former, like many another French expression, has won its place in our urological nomenclature.[10] Guyon understands by this term "patients with symptoms which are falsely localised by them, and which indicate a really existing disease, even if in another organ (i.e., other than the urinary apparatus)." We might go further and understand a symptom-complex which can mislead not only the patient but the physician, and which may indeed imitate closely an affection of the urinary apparatus, thus leading to failure to supply appropriate treatment for the case. Perhaps one sees more of these in Carlsbad than anywhere else. To give an instance, the chronic dyspepsias with increased frequency of micturition are well known. I may mention here two cases of this type, such as are not particularly common.

A middle-aged gentleman, a professional brother, consulted me for a troublesome pollakiuria combined with pain in the urethra, and especially in the glans. Even the introduction of a Nélaton bougie caused extremely severe pain. The patient thought he had a stone and wished me to sound him. I declined, however, to make this examination, not only on account of the extreme sensitiveness of the urethra, but chiefly because the diagnosis was evident from symptoms. Even such freely explored *viae naturales* as these should not, for mere curiosity, be explored with an instrument. Against my advice, however, the patient, to whom for sufficient reasons I had not told the real diagnosis, had a sound passed by another hand—of course with negative results, for before the examination was made I had told his family that he was suffering from those vesical and urethral crises which were described by Geffrier[11] and Fournier[12] as characteristic of the pre-ataxic stage of tabes dorsalis. In this case the drinking cure and hydriatric procedures had a favourable influence on both the intestinal disturbances which were present and the course of the fundamental trouble. I have seen the patient lately and was astonished at finding how well he was doing.

This case is not exceptional; tabetics have consulted me repeatedly in the earliest stages of their disease, on account of bladder disturbances, and I have always seen good results from the above-mentioned treatment. The good effects of hydriatric procedures in tabes are well known, but I wish to emphasise especially that by means of the drinking cure in addition we may meet the symptomatic indications and influence the intestinal and vesical disturbances.

The second of these "pseudo-urological" cases was the following. A patient was sent to me five years ago with the diagnosis of nephrolithiasis. As a matter of fact, he had passed a number of uratic calculi about a year before after a typical colicky attack. But at the time that I examined him, in spite of intermittent pain in the kidney region, there was neither sand nor gravel in the urine. The type of this pain failed, moreover, to simulate that of a renal colic closely enough to give me any real cause for doubt, and, in fact, on more careful examination I found it to be a case of sciatica and one which cleared up rapidly under the administration of alkalies, massage, and mud baths (it was apparently of the uratic form). The false diagnosis had been made, of course, on the basis of the former attack of renal colic and more particularly because the pain was chiefly in the distribution of the iliac branch of the iliohypogastric nerve—that is, about in the kidney region.

Similar pseudo-renal colics may be imitated as well by chronic constipation, when deposits of hard scybala may be present in the splenic flexure, and more often by spastic constipation involving the descending colon. This frequently causes pain, often rather severe, which may radiate as far as to the right testicle, and is often increased by pressure over the splenic flexure. Appendicular and tubal colics may also be mentioned in this connexion.

There is another class of patients whom I should call "urinaires dissimulés," or concealed urological cases. They form a considerable contingent of the visitors at Carlsbad. These are people who complain of little else than digestive disturbances of various kinds, of constipation, chronic diarrhœa, anorexia, hemicrania, &c., symptoms which in reality are remote manifestations of a local affection of the urinary apparatus—i.e., of a chronic uræmia. In this character appear especially chronic nephritis and prostatic disease. These patients are in a particularly delicate equilibrium as regards health. They know that they "once had a catarrh of the bladder," but that was long ago, and they are used to it. They come to Carlsbad because of poor digestion. They have been advised to "give their bladder a complete rest for a while"—that is, not to have it treated locally! I have elsewhere reported one such case.[13] But the physician is guilty of a serious sin of omission if he does not treat such cases locally and of a disastrously wrong diagnosis if he handles them as stomach or intestinal affections. I will cite here two cases.

The first case was that of a woman who was over 60 years of age and who had from time to time for many years come to Carlsbad on account of cholelithiasis. She had been for some time under treatment by different well-known gynæcologists for a pelvic trouble. She was referred to me by her own Carlsbad physician because she had "suddenly" begun to suffer from strangury. On examination I found a prolapse of the uterus and, as often happens in connexion with it, a prolapse of the anterior vaginal wall and a part of the bladder, so that this pocket-like portion did not empty itself—like the furrows in a prostatic case. In the same way there was here a residual urine amounting to between 50 and 100 cubic centimetres. A chronic cystitis was present which the patient considered of quite trifling importance. A well-known urologist, since then deceased, had directed her to catheterise herself over a hand-mirror and occasionally to irrigate the bladder. She had done so "occasionally" if the cystitis was troubling her. This time the strangury was annoying her unusually because, as she said, she had "turned her stomach by eating bad peas." The bad peas here were a typical urinary fever, with profuse diarrhœa, almost unbearable tenesmus, nausea, &c. Her condition caused considerable anxiety for 24 hours, but finally yielded to rest in bed, great quantities of hot sprudel water, and, for the pollakiuria, cocaine applications to the vulva. As soon as the patient could get up the cystitis was treated with success. The digestive complaints were not mentioned again. A pessary relieved the retention.

The second case was that of a woman from Northern Bohemia. She took to bed immediately on arrival at Carlsbad. She had been ailing for many months and was said to have biliary sand. On entering the room one could make a diagnosis of ammoniacal cystitis by the sense of smell. Also, in this case there was urinary fever; the bladder proved again to be the *porta malorum*, and appropriate local and general treatment resulted in a disappearance of the fever and an increase in the strength. This patient had also, as a matter of fact, an affection of the liver and was jaundiced; but it was impossible to refer all the symptoms, fever, prostration, anorexia, and diarrhœa, to the biliary function. These were all remote symptoms of chronic uræmia. One must not be satisfied to refer all phenomena without afterthought to a disease that is known to exist, otherwise therapeutical signs of omission may be committed with disastrous results.

I have elsewhere called attention to the fact that a pollakiuria in *diabetes* should always arouse suspicion of a non-diabetic cause. When such a patient complains of increased frequency of micturition one should not be satisfied to ascribe it merely to the diabetes and to consider everything thus explained, but should always look for a possible other reason. Almost without exception a complicating affection of the lower urinary passages may be demonstrated, which was the source of the pollakiuria. I am convinced that, although diabetes may cause a polyuria, it never, except in the early stages, and then not as often as supposed, causes a pollakiuria, or, as Clado, before his untimely death, more properly named it, a sychnuria.

Even though a polyuria does not as a rule cause a sychnuria, the bladder accommodating itself to the greater demands on its capacity, the converse may well happen that sychnuria can cause a polyuria. Our experience leads us to agree fully with Guyon to the effect that an increase in the frequency of emptying the bladder reflexly increases the kidney secretion and conversely that the decrease or total relief of this abnormal frequency decreases in consequence the quantity of urine.

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[10] Guyon's Lectures, German edition, by Dr. Oscar Kraus and Dr. Otto Zuckerkandl, Vienna, 1894, vol. i., p. 18.

[11] Étude sur les Troubles de la Miction dans les Maladies du Système Nerveux, Paris, 1884, Dissertation.

[12] L'Ataxie Locomotrice d'Origine Syphilitique, 1882.

[13] Congress of the Association Française d'Urologie, 1897.

Of the many examples which could be given to support the above statements I mention but one. This was the case of a Parisian woman who was under our care in September, 1901. She suffered from severe diabetes, discovered in 1895, and had been treated since then with indifferent success. When we first saw the patient the excretion of sugar, in spite of strict diet, amounted to 48 grammes per litre, with a daily quantity of urine of over 3000 cubic centimetres, or a total excretion of about 150 grammes of sugar. In addition there was abundant excretion of acetone and diacetic acid and a trace of β-oxybutyric acid. The specific gravity was 1030, with an ammoniacal reaction, while in the sediment were found mucus, pus, and triple-phosphate crystals. The cystitis was a matter of years' standing and was the cause of an unusual increase in the frequency of micturition; by day the patient had to urinate about every half hour and averaged six or eight times at night; and all of this had been ascribed to the diabetes! As for other symptoms it need only be mentioned that the patient had suffered for years from chronic constipation and had lately lost much weight. I began local treatment of the bladder; the urine soon became clear and acid, with simultaneous disappearance of the sychnuria, *although the polyuria still continued*, and the sugar decreased but slowly, as a diet free from carbohydrates could not be introduced at once on account of the acetone. It was only much later that the sugar and the polyuria decreased together (daily quantity 650 cubic centimetres) and the patient gained weight.

As a *résumé* it may be said that the Carlsbad waters are particularly indicated in diseases of the urinary passages for the following reasons. 1. Because they are notably diuretic. Therefore they have an eliminative action on foreign bodies in the urinary passages, like clots, mucus, pus, or small concretions, such as can be passed out *per vias naturales*. The passages are "well flushed out." Of course, micro-organisms (bacillus coli, &c.) are also by this means washed out. 2. They have a modifying action on the urinary mucous membrane; catarrhs of low grade heal rapidly without local treatment. 3. The Carlsbad waters stimulate both renal and intestinal functions energetically and their use is thus especially indicated in those cases where so-called urotoxic substances are to be eliminated—i.e., in cases of prostatic disease, chronic cystitis, &c.—and in those cases of nephritis where the gastric symptoms prevail. 4. The regulation of intestinal activity has a direct depleting effect on the pelvic organs, bladder, prostate, &c. The venous stasis due to intestinal stagnation is mitigated, the deeper organs are relieved. The increase in volume of the hypertrophied prostate due not to secondary degenerative changes but to a congestive hyperæmia—and in every case a part is congestive—disappears as a result of the regulation of the bowels. 5. Post-operation, after nephrotomy, suprapubic lithotomy, litholapaxy: to wash out the smallest particles of sand; after prostatectomy: to alleviate the cystitis, regulate the bowels, and eliminate the toxins. 6. The Carlsbad treatment is contra-indicated in the common condition of frank uro-genital tuberculosis, so frequently taken for a simple cystitis or pyelitis.

Carlsbad.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 26th, Mr. H. H. CLUTTON, the President, being in the chair.

Mr. LAWRIE H. McGAVIN exhibited two cases of Ventral Hernia through an operation-scar treated by the Implantation of Large Filigrees of Silver Wire. The first case, that of a woman, aged 38 years, presented a hernia at the site of the scar of an operation that had been done a year before, the gap measuring 5 inches by 3 inches. The whole of the old cicatrix was removed by an elliptical incision 11 inches in length. One portion of the external oblique aponeurosis was sutured to the cut edge of the posterior sheath of the rectus muscle and upon this, as a bed, a silver wire filigree, measuring 8 inches by 4 inches, was laid, the inner loops being disposed beneath the rectus muscle and the outer beneath the oblique muscles. The remains of the rectus muscle were now brought out of the sheath and sutured as far as possible to the oblique muscles over the filigree. This caused a weak spot at the middle line of the abdomen and necessitated the opening of the sheath of the left rectus muscle, which was drawn across the middle line to meet its fellow, where it was sutured. The skin and superficial fascia were closed over all by 35 Michel's clips. No belt had been worn since convalescence. The second case presented a similar condition after an operation for appendicitis. The scar had been treated in like manner and the result had been most satisfactory.—Mr. A. E. J. BARKER congratulated Mr. McGavin on his results. The method was certainly superior to any he himself had used and saved a great deal of time and manipulation. He had used interlacing wire in about 30 cases and in only two instances had it to be removed subsequently. He referred to the respiratory embarrassment which he had seen occur after the replacement of enormous herniæ.—Mr. McGAVIN said in reply that he had not had to remove the filigree in any of the 16 cases he had done.

Mr. McGAVIN also showed a case of Inguino-scrotal Hernia in a male treated by Implantation of Filigrees of Silver Wire.

Mr. DOUGLAS DREW exhibited two cases illustrating the Use of a Filigree of Silver Wire in the Radical Cure of Umbilical Hernia.

Mr. DREW also showed a case of Habitual Dislocation of the Patella (? Congenital) in a girl, aged 13 years. The child first came under observation when six years old with severe genu valgum and dislocation of the patella when the knee was flexed. Macewen's osteotomy of the femur was performed in April, 1900. The present condition was much the same as seven years ago. On flexing the knee the patella slipped completely over to the outer surface of the external condyle, whereas when the knee was extended it lay over the external condyle. It was suggested to treat the case by dividing the capsule on the outer side of the patella so as to allow of the reposition of the bone, and by shortening up the capsule on the inner side and deepening the patellar surface on the femur.—Mr. WALTER G. SPENCER advised the removal of the patella, care being taken not to damage the aponeurosis.—Mr. DREW recalled a case operated on in the way which he now suggested by Mr. Bilton Pollard 16 years ago, with an excellent result.

Dr. F. E. BATTEN showed three cases of Acute Ataxia (Encephalitis Cerebelli). The first case, in a boy, now aged six years, had been exhibited before the society in October, 1904. In April, 1904, he vomited, had general convulsions, and passed into a comatose condition. On regaining consciousness he was wildly ataxic alike as regards his legs, arms, and trunk. From this he very slowly recovered and when exhibited before the society in 1904 was still very ataxic. He walked fairly well but was still unsteady, especially on the left leg. The articulation was still slow and hesitating. The reflexes were normal. Sensation to touch and pain was perfect. The second case was in a boy, aged 11 years, who was quite well up to April 1st. He had severe headache, vomited a whole day, and was unable to feed himself or to stand. On April 5th he tried to get out of bed and walked like a drunken man. On the 9th he had marked ataxia of both legs, some ataxia of the hand, and nystagmus on looking to the left side. There was loss of tone in the muscles of the lower limbs. The knee-jerks were active and the plantar reflexes flexor. The boy had rapidly improved, so that he now only exhibited slight ataxia in the lower extremities. The third case was that of a boy, aged 12 years, who had always been backward. For the last seven years the patient had had attacks of *petit mal*. In September, 1906, he had a series of 130 fits and was unconscious for three days. On recovery he could move his arms and legs but had no control over them and had not been able to walk since. His mental condition was poor and his articulation was slow and jerky. There was unsteadiness of the trunk and head. There was general weakness of the arms and a well-marked intention tremor was present. He could not walk without aid and his gait was wildly ataxic. Dr. Batten referred to the favourable prospect in these cases and recalled Dr. Frederick Taylor's case that made only slight improvement in the first three years but had perfectly recovered when seen 25 years later.

Mr. C. GORDON WATSON showed two cases of Modified Pirogoff's Amputation in men, aged 30 and 40 years respectively. The operation was performed in the first case for very severe talipes equino-varus following infantile hemiplegia. After tenotomy of the tendo Achillis and subcutaneous division of all contracted tissues in the immediate neighbourhood, excision of the astragalus and amputation of the foot in front of the os calcis, removal of the internal malleolus and the cartilage from the lower end of the tibia and a small portion of the anterior extremity of the os calcis, the patient could now walk well and had a very comfortable stump.—The PRESIDENT remarked that the result of this new operation was excellent.

Mr. REGINALD H. MILLER showed a case of Encephalitis chiefly affecting the Mid-Brain. The patient was a boy, aged three years, under the care of Dr. W. S. Colman at the Hospital for Sick Children, Great Ormond-street. In October last the child was suddenly taken ill with a convulsion, in which the left side of the face was drawn up, and this was followed by three weeks' unconsciousness. When seen in November there was some weakness of the right side of the face and the right external rectus with slight lateral nystagmus. There had been inability to walk or talk, extreme emotionalism, some rigidity of the right arm and leg, and a slow tremor (about five per second) of the head and limbs, which showed more in the proximal than in the peripheral parts of the limbs and was absent only during sleep. The fundi were normal; the abdominal reflexes were absent on the right side and feeble on the left; the knee-jerks were brisk and about equal and the plantar responses flexor. The facial and ocular signs quickly cleared up and the tremor became of the "intention" type; the abdominal reflexes became normal, but the rigidity of the right side remained. He had now regained the power to walk, but could not yet speak intelligibly. Recovery had been slow but continuous.

Dr. W. G. STONE and Dr. F. NORMAN showed a case of Tumour of the Tongue in a boy, aged five years. The right side of the tongue had been severely bitten three years ago. Since then it was reported that there had always been a swelling under the tongue of about the size of a hazel-nut, with a smooth surface and of the same colour as the rest of the tongue. There was now an irregular purple swelling on the under surface of the right half of the tongue with hardened edges.—Mr. BARKER suggested that the case was possibly one of the mixed type of lymphatic nævus.

HARVEIAN SOCIETY OF LONDON.

Ulcerative Colitis.—Functional Nervous Disorders in Childhood.

A MEETING of this society was held on April 18th, Dr. SIDNEY P. PHILLIPS, the President, being in the chair.

Mr. FRANCIS JAFFREY read a paper on a case of Ulcerative Colitis, Appendicostomy, Cæcostomy, with complete recovery, under the care of Dr. A. C. Latham and himself. A man, aged 48 years, was admitted into St. George's Hospital in March, 1906, with severe ulcerative colitis of six weeks' duration; the bowels had acted as often as 18 times in the 24 hours and there had been severe hæmorrhages. Various drugs were given by the mouth without effect and rectal injections of boric acid, silver nitrate, and starch and opium failed to control the symptoms. As the patient was in a precarious condition Dr. Latham asked Mr. Jaffrey to operate. Appendicostomy was therefore performed, but owing to the small size of the appendix satisfactory irrigation was impossible. Five weeks after the first operation, therefore, cæcostomy was performed and then the colon was daily irrigated with listerine, one ounce to the pint, and occasionally with adrenalin, one drachm to the pint, or liquor hamamelidis, two drachms to the pint. In less than a fortnight practically all the symptoms had disappeared, there being no blood, pus, or mucus in the stools. The cæcostomy was ultimately closed and the patient was now in normal health and at work. The case showed the beneficial result of prompt resort to cæcostomy when medicinal treatment had failed, for there was no doubt that the patient must have rapidly succumbed if he had not been operated upon.—Dr. ALEXANDER MORISON spoke of the styptic and antiseptic value of turpentine in cases of ulcerative colitis.—Mr. T. CRISP ENGLISH alluded to the advantages of cæcostomy over appendicostomy.—The PRESIDENT said that only a few cases of ulcerative colitis require operation, amongst other indications being hæmorrhage and obstruction from atony. He referred to the value of mercury by the mouth and of adrenalin injections.—Dr. LATHAM urged that in the really acute cases of ulcerative colitis surgical measures should be advised earlier than was the usual practice, for medicinal treatment usually failed to control the disease.

Dr. LEONARD G. GUTHRIE read a paper on Functional Nervous Disorders in Childhood. He suggested that all depended upon individual instability of the nervous system and not upon the normal physiological instability common to all young subjects. Such instability was manifested in (1) derangement of coördination, shown in nystagmus, head nodding, some cases of strabismus, congenital stridor, enuresis, and stammering; (2) defective control by higher over lower centres, instanced in chorea, the tics, and some cases of recurrent pyrexia; (3) explosiveness of the higher centres, accounting for epilepsy and eclampsia; (4) explosiveness with readily induced exhaustion of psychical, sensory and motor realms characterised hysteria; (5) instability and exhaustibility of all parts of the nervous system explained neurasthenia; and (6) derangement of the sympathetic and vaso-motor system was the cause of many functional ailments such as pseudo-angina, palpitation, tachycardia, Graves's disease, atonic dyspepsia, and enterospasm. The sympathetic system was at the mercy of the mind and most functional disorders were the outcome of the neurotic temperament. The neurotic child was the father of the neurasthenic adult. The various types and characteristics of neurotic children were described. It was held that the neurotic temperament itself was in no sense morbid though likely to become so under injudicious management. Educational over-pressure was attributed chiefly to fact-cramming, strain of defective memory, enforced concentration over uncongenial tasks, fear of failure, and disappointment at want of success. Precocious children were no more liable than dullards to die young.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Instruments.—Eclampsia.—Bier's Hyperæmia in Gynæcology.—Report of the Rotunda Hospital.

A MEETING of this section was held on April 12th, Sir A. V. MACAN being in the chair.

Mr. JAMES S. ASHE exhibited a Vulsellum Forceps which he had had made in order to get over the tendency of the bullet forceps to slip out of the cervix and to avoid the discomfort attending the holding of it for any considerable period. The chief features of the vulsellum forceps were that the points interlocked instead of meeting outside, while they were flatter on the under surface than the ordinary bullet forceps so as to offer a greater resistance and not pull through the tissues. The handles were so shaped that no matter how they were held they were fairly comfortable. There was no difference as to the cost of production.

Mr. A. J. HORNE exhibited for Dr. DUKE a new Uterine Dilator. Dr. Duke said that anyone who had performed the operation of dilatation must have noticed the contraction of the cervix uteri on the curette taking place during the proceeding. The cervical wall might require scraping and owing to the contraction spoken of this became difficult, if not impossible. The cannulæ shown were designed to be introduced after dilatation according to the amount of room required, the curetting being carried on through the cannula, which was gradually withdrawn, thus effectually preventing the contraction of the cervix on the curette.

Mr. J. SPENCER SHEILL exhibited a Chart showing diagrammatically the dates and occurrences during the last three years in connexion with an eclamptic patient. He had brought the case before the Academy a year ago and he thought that the further history of the case would be of interest. About the year 1900 the operation of nephrectomy was performed on the patient for tuberculosis of the left kidney. In 1904 she married and became pregnant. The remaining kidney, having the extra strain of pregnancy put upon it, began to fail, and in March, 1905, when about six months pregnant, she consulted Mr. Sheill suffering from eclampsia. Induction of labour was satisfactorily done, but the child was lost. In August of the same year she became pregnant again. The usual treatment was adopted, and as far as the kidney was concerned it was fairly satisfactory.

In December of the same year the kidney again showed signs of failure. In January, 1906, when she was about eight months pregnant, the symptoms became so marked that he determined to induce labour. He delivered her of a living child and about three hours afterwards she had an eclamptic seizure. Although cautioned as to the dangers of a third pregnancy she again became pregnant and in November, 1906, the kidney showed symptoms of rapid failure. After consultation with two other practitioners, it was determined, in December, when she was only three months pregnant, to empty the uterus. It was emptied by him under anæsthesia, and in about three days the amount of urine became normal. In January, 1907, it was thought advisable to prevent any further pregnancy, and after consultation and with the consent of the husband and the patient her Fallopian tubes were resected. The chart raised certain points of interest, such as the postponement of marriage for at least three years after the removal of one kidney, and the question as to the induction of labour in order to save the life of the mother and the child. There was also the point as to the significance of the amount of urea in the urine. If he had been guided by the amount of albumin he would never have done anything with the case, for it never rose beyond 0·15 per cent., whereas the amount of urea excreted fell as low as seven and a half grains per ounce in 14 ounces in 24 hours. There were also the points as to the advisability of inducing abortion and of sterilisation. The kidney was functioning absolutely normally between the pregnancies, and was quite capable of carrying on its work. The urine was examined at very frequent intervals in order to be quite sure on that point.—Mr. E. HASTINGS TWEEDY said that the result had justified Mr. Sheill's treatment, but he had never heard of a woman being deliberately sterilised when no symptoms were present and when there was no suggestion that she would ever become pregnant again.—Dr. H. JELLETT said that he could not agree with Mr. Tweedy as to the particular boldness or rarity of removing the tubes for renal disease. It was on all fours with the very old treatment of osteomalacia. It was not possible to wait until pregnancy occurred in order to resect the tubes.—Dr. T. P. C. KIRKPATRICK instanced a case of a girl aged 20 years who became pregnant last year and had eclampsia at the time. She died with all the symptoms of failure of the kidneys. At the necropsy it was found that she had old and chronic tuberculous disease of one kidney which had completely destroyed its function; the other kidney was amyloid. She recovered from the eclampsia but died some months afterwards from failure of the single kidney.—Mr. HORNE said that considering the age of his patient (28 years) and her apparent fertility, he thought that Mr. Sheill was perfectly justified in his action. If he had allowed her to become pregnant again he would probably have had to repeat the former operation with less favourable results.

Mr. SHEILL read a paper on Bier's Treatment of Disease (by hyperæmia artificially produced) as applied locally in gynæcology, and some actual experiences with it in a variety of gynæcological ailments were related. Mr. Sheill dismissed the "arterial" hyperæmia produced by hot air and the "venous" hyperæmia produced by "constriction" because he had had no experience of the former and the latter he considered inapplicable to gynæcology. The "suction" form, creating mixed arterial and venous hyperæmia, was the kind he used, and he showed a simple form of apparatus which had been successfully employed in a number of cases. He said that in order to be beneficial the "suction" must be intermittent and must not be so strong as to cause pain. Three-minute applications and one minute intervals for half-hour sittings daily or weekly, as the case might be, were recommended. He also spoke of the value of the intermittent action, "massaging" the uterus being valuable in cases of adhesions and relaxed pelvic ligaments. Mr. Sheill had used the treatment in two cases of amenorrhœa occurring without obvious cause; the results were negative in so far as the menses were concerned, although in one case other pelvic symptoms were relieved. A case of endometritis was very favourably influenced. In two cases of old pelvic exudate and adhesions the result was especially gratifying. Mr. Sheill suggested that the suction treatment would be valuable to prevent the upward spread of the infection in cases of gonorrhœa, as well as for the safe and easy removal of tenacious mucus from the cervix of nulliparæ desirous of becoming pregnant.

Mr. HASTINGS TWEEDY read the report of the Rotunda Hospital for the year 1905–06.

On the proposal of Dr. THOMAS NEILL, seconded by Mr. HORNE, discussion on the paper was postponed till the next meeting of the section.

SECTION OF STATE MEDICINE.

The State and Syphilis.

A meeting of this section was held on April 19th, Dr. F. C. MARTLEY, the President, being in the chair.

Mr. G. R. SEYMOUR STRITCH read a paper entitled "The State and Syphilis," discussing the matter from its financial, vital, hygienic, and legislative aspects. He endeavoured to show that the time had now come for an active crusade to be formulated by the Government and the people against syphilis. He adduced figures to prove that the cost to the nation of venereal diseases in the army, navy, and Government departments amounted annually to no less a sum than £3,000,000, and that allowances for superannuations and for sick leave occasioned indirectly through these diseases, though not appearing in the returns as such, were a further cause of heavy expenditure. In estimating the loss to the nation from death and disablement not only syphilis should be considered but also all those diseases which may be traceable to it. The hygiene of syphilis might be dealt with from the basis of a "trihedron" supporting the principle of morality, sociality, and legislation. Circumcision he believed worthy of being adopted universally. Boys should be encouraged to acknowledge any slip to their fathers. Lectures should be given in schools and ambulance classes on the dangers of venereal disease. He believed that the Contagious Diseases Acts fulfilled their purpose; they ought, however, to be applied not piecemeal to secluded areas but generally throughout the empire. He recommended free dispensaries for men in each quarter of a city, the notification of the disease, and the punishment of those to whom its spread was traced, together with the compulsory detention and segregation of prostitutes whilst in an infectious condition.

Colonel EDWARD BUTT, R.A.M.C., said that his experience of the disease had been limited to the army, but he thought that the medical profession, in common with the general public, did not recognise that, notwithstanding all sorts of moral and educational influences, things were much the same as they had been in the past. His experience, gained during his last three years in India, had led him to the conviction that the disease could be stamped out. During that period, in a garrison of 1000 men, he had not one case of syphilis, although there were many prostitutes living on the confines of the garrison, and none of these contracted syphilis. The accomplishment of this was made easy for him by the magistrates, officers commanding, and his brother medical officers working with the one desire of stamping out the disease. They induced the soldiers to believe that they could benefit them by submitting to treatment. There was no stigma attached to women who suffered from venereal diseases going into the cantonment general hospitals, and the native women attendants were taught to explain to the women the benefits of treatment. The result was, he thought, strong presumptive evidence in support of his contention that so long as local manifestations of the disease had been removed and the treatment was continued the disease could not be communicated.

Dr. HENRY FITZGIBBON said that the difficulty which had always existed in dealing with patients in the Lock Hospital had been the absence of controlling power to get them to remain under treatment. Power was required to keep prostitutes in hospital as long as there was active syphilis present, and to keep them under observation and treatment as extern patients afterwards. There was also a difficulty in connexion with young men who had not the means to pay for treatment and who had no encouragement to go to general hospitals.

Major BROWN, R.A.M.C., said that the majority of those who indulged in sexual vice were not open to moral persuasion. Women who practised as prostitutes could not be prevailed upon to submit to treatment for a sufficient period and the only practicable way was to compel them to remain in hospital or to report themselves to a medical practitioner until they could be certified as free from the disease. The efforts that had been made to stamp out the disease in the army did not seem to have had much effect. In Dublin, in 1906 the constantly *sick from syphilis were* 2·93 *per* 1000, while in 1866 the proportion was 1·72 per 1000.

Dr. T. P. C. KIRKPATRICK said that the question of State interference was as old as history. So far back as the year 1162 Parliament interfered for the regulation of brothels. It was a *mistake to suppose that there was no regulation for* State interference with venereal disease in Dublin. Under the Act of Parliament 5 Vict., c. 24, the police dealt very severely with prostitutes and soliciting, and in the Act 48 & 49 Vict. there were very stringent regulations for the suppression of brothels. He had received from the Commissioner of Police a table showing the number of women proceeded against during the last five years, 601 being dealt with in 1906. During the same period 20 brothels had been suppressed in each year. Syphilis was not always, as was urged by some persons, a merited disease. The morbidity and mortality of the disease justified them in urging the State to interfere in the matter. The sentiment of the country was against the official registration of prostitutes, and he would rather follow the suggestion that the laws at present in force should be used against solicitation, and a man who could be proved to have infected a woman with syphilis should be liable to similar punishment.

Colonel CHARLES H. BURTCHAELL, R.A.M.C., said that he had been in several American cities where prostitution was rampant, although the police arrangements absolutely prevented soliciting. If the prostitutes did not find the men, the men would find the prostitutes. Syphilis was due to a voluntary act. If legislation was enacted it should be equally severe on the man and the woman, and he thought that there should be some restriction on the *marriage of* syphilitic persons.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 19th, Dr. J. Lindsay Steven, the *President*, being in the chair.—Mr. H. Rutherfurd read :—Notes of a case of Cerebellar *Abscess* following Otitis Media. The symptoms were headache and dizziness and mastoid abscess was diagnosed. Under treatment the symptoms disappeared and the patient was sent to a convalescent home to improve his general condition before operation. On re-admission he had frontal headache and was apathetic and livid. The pulse was from 52 to 62. After the radical *mastoid* operation the pulse ran up to 116 but fell again. There was no recurrence of duskiness until the sixth day when it came on suddenly with coma. Respiration failed and he died. Miss M. Hannay performed a necropsy and found a cerebellar abscess. There was no suppuration at the base of the brain. Granulation tissue was found around the eighth nerve. 2. A case of Fat Embolism of the Brain after Simple Fracture of the Leg. 3. A case *operated* on for Otitis Media with Sinus Thrombosis. Dr. H. Wright Thomson read notes on the Condition of Retro-bulbar Neuritis which developed. Sinus thrombosis developed *three months* after the mastoid operation and the internal jugular vein was ligatured. Vision rapidly failed and the left eye became quite blind. The external appearance was normal. The vision of the right eye was $\frac{6}{6}$. There was central colour scotoma. The optic discs were very white with irregular margins. The laminæ cribrosæ were invisible. A month later vision was $\frac{6}{36}$ and colours were recognised. The papillitis in this case was considered to be secondary to the retro-ocular neuritis. The patient had influenza before operation and the condition was probably of *toxic* origin.—Dr. J. Stoddart Barr showed : 1. Three cases operated upon for Empyema of the Mastoid Cells in which the resulting cavities were filled with the iodoform wax of Mosetig-Moorhof. In Case 1 six days, in Case 2 *nine days*, and in Case 3 12 days passed after the mastoid operation before the cavities were filled with the iodoform wax. Healing was complete in 16, 18, and 21 *days* respectively after the vertical cells had been curetted. In all the cases the otorrhœa had ceased, the post-auricular scar was *slight* with no depression, and the hearing greatly improved. A contrast case was also shown in which the older method of packing with *gauze strips* had been adopted and in which healing was not complete until 12 weeks after the operation, leaving a marked depression behind the ear. 2. A patient, aged 49 years, from whose Nose a Foreign Body had been removed which had been there for fully 40 years and had excited severe and constant headache. By posterior rhinoscopy pus in large quantity was seen filling the left choana. The left middle turbinal was removed as sphenoidal or posterior ethmoidal disease was diagnosed. It *was only after this had been done* that the foreign body, a piece of indiarubber one inch square and covered with pus, was seen lying upon the anterior wall of the sphenoidal sinus. Its removal, which was easy, was followed by complete cessation of the headaches.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 5th, Dr. W. C. Chaffey, the President, being in the chair.—Dr. Walter Broadbent showed a man with Aneurysm of the Third Part of the Arch of the Aorta, having a brassy cough, paralysis of the left vocal cord, tracheal tugging, dulness and pulsation in the left second space, with a harsh systolic murmur and a loud second sound over this area and the aortic region, also diminished air entry in the upper lobe of the left lung. He also showed a case of Basic Phthisis in a young man with a large cavity in the left lower lobe and only very slight signs in the apices.—Mr. H. H. Taylor showed a woman with a Swelling in the Region of the Right Lacrymal Gland of recent origin and a subsequent swelling of the forehead. There was also a node on the right tibia and the diagnosis lay between sarcoma and gumma.—Mr. T. H. Ionides showed a Stone three inches long and three-quarters of an inch in diameter which he had removed from the ureter of a man in whom he had twice crushed stones in the bladder.—Mr. R. F. Jowers showed an Extra-uterine Fœtation of the Tubo-ovarian type which he had removed by operation.—Dr. C. F. Bailey showed an x ray photograph of a Tuberculous Wrist.—Mr. H. H. E. Scatliff read notes of a case of Lymphatic Leukæmia which he had *first seen in January for a hæmatoma* of the inguinal glands which he had opened, letting out pus and blood. Subcutaneous hæmorrhages then developed with a high septic temperature and the gums became *spongy* and bled easily ; there was also diarrhœa with blood in the *motions*. The blood was examined and found to contain 64,000 leucocytes, *of* which 45,000 were lymphocytes. The patient died in March.—Mr. Taylor read some notes on the Royal Commission *on* Tuberculosis, remarking that it was appointed after *Koch's statement that* bovine and human tuberculosis were distinct diseases, not transmissible from cow to man or *vice versâ*. The Commission had found that human tuberculosis was infective to cattle, if given in sufficient dose, but it was less virulent than bovine. Two kinds of human bacilli had been differentiated, one more virulent, like bovine, and difficult to grow on media, the other less virulent but easier to grow. In 60 children examined they found the bacilli analogous to bovine 14 times. Of 23 cases of abdominal glands examined 19 contained bovine bacilli. In 20 tuberculous cattle the milk was virulent to guinea-pigs 11 times. It therefore seemed clear that bovine tubercle was transmissible to man as well as human to cattle.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN.—A meeting of this society was held on April 24th, Dr. Leslie Roberts, the President, being in the chair.—Mr. G. W. Dawson *showed* : 1. A woman, aged 79 years, with Paget's Disease of the Left Breast which he had treated with x rays. The case had been previously exhibited before *the society* and the members were agreed that considerable improvement had taken place. 2. A boy, aged 14 years, with generalised Keratosis Pilaris *associated* with a *slight* degree of Ichthyosis. The palms and the soles were *free.—Dr. E. G. Graham* Little showed : 1. A case of Tuberculosis of the Ear in a girl aged 13 *years*. There was a necrotic condition of the margin of the left *pinna which had existed*, off and on, for seven years. There was no *history* of any local inoculation, but the child came of a markedly *tuberculous* stock. 2. A man, aged 40 years, with Ringworm of the Nails. The *case was* remarkable in that every finger-nail of both hands was attacked *by the disease*. The mycelium had been identified and the condition had *lasted for fully* 13 years.—Dr. Alfred Eddowes exhibited : 1. A *case of* Syphilitic *Alopecia* in a young woman, of five weeks' duration, associated with *much* tenderness of the scalp which, together with some local œdema, was the *most* conspicuous feature of the case. 2. A man, aged 57 years, with a Secondary Syphilitic Eruption of a somewhat unusual type. Upon the abdomen the lesions presented a shiny, lichenoid appearance, while upon the *forearms* the rash assumed a scaly, psoriasiform aspect. The condition had lasted for *four* months and before being seen by the exhibitor the patient had *been* rubbing in an *ointment* his description of which suggested that it might have contained chrysarobin.

Reviews and Notices of Books.

The Diseases of Infancy and Childhood. By HENRY KOPLIK, M.D. Second edition, revised and enlarged. London: Henry Kimpton. 1906. Pp. 885, with 184 engravings and 33 coloured plates. Price 25*s.* net.

THE second edition of Dr. Henry Koplik's work on the diseases of infancy and childhood does not materially differ from the one that preceded it, a result that is hardly surprising, seeing that the first edition was itself notably up-to-date and very complete in detail. The section on infant-feeding has, however, been recast to the exclusion of certain theoretical considerations which had little bearing on the practical management of infants and with the inclusion of certain new details which can be readily applied and carried out by the practitioner. More attention has been given to the physiology and pathology of the newly born infant than was devoted to these subjects in the first edition or indeed than is usual in text-books of this kind. The section which deals with the specific infectious diseases, and which we particularly commended in a previous review, has received extensive additions, and is in every way worthy of Dr. Koplik's reputation in this department of medicine. In view of the recent epidemic of cerebro-spinal meningitis the chapter which deals with the subject will probably be referred to with some degree of interest, since it represents the latest views of an expert on this question. The author states that in the epidemic form of the disease the diplococcus meningitidis intracellularis of Leichtenstein, Weichselbaum, and Jäger is in the vast majority of the cases the specific cause of the disease, although there is another form of cerebro-spinal type which is caused by the diplococcus pneumoniæ. As to the manner in which the infection is conveyed, a question which is still one of speculation, the author seems to incline to the view that the diplococcus may be disseminated by means of the secretions of the eye and the nose, although he particularly warns his readers against confounding the micrococcus catarrhalis, which is often found in the normal secretions of the nose, with the specific form of the diplococcus intracellularis. But however probable it is that the infection may be carried in this way Dr. Koplik adds that the facts as far as they are known do not definitely establish how the infectious material gains access to the circulation, or whether, indeed, the disease is even conveyed from one person to another. His account of the manifestations of the clinical symptoms, the early diagnosis of the disease, and the bacteriology is well worth reading and could hardly be improved upon even in the light of the great amount of work which has since been done in this disease in consequence of the recent epidemic in this country.

We notice several new illustrations and additional charts in the present edition, and in every way we regard Dr. Koplik's revised volume as a most trustworthy and useful text-book for students and practitioners.

Die Neurologie des Auges (The Neurology of the Eye): A Handbook for Neurologists and Ophthalmologists. By Dr. H. WILBRAND, Ophthalmic Surgeon; and Dr. A. SAENGER, Physician for Nervous Diseases to the St. George's Hospital, Hamburg. Vol. III., Part 2: General Diagnosis and Symptomatology of Visual Defects. Wiesbaden: J. F. Bergmann. 1906. Pp. 623. Price £1 2*s.* 6*d.*

Dr. Wilbrand and Dr. Saenger continue to issue from time to time fresh instalments of their monumental work upon the neurology of the eye. The treatise as originally announced was to be complete in three volumes. Four volumes have already appeared, for Volume III., split into two halves of 474 and 623 pages respectively, consists of two volumes in all but name. Two further volumes are now expected to complete the work but we have no information yet as to how many "halves" they will contain. Criticism of such a gigantic undertaking, if not superfluous, savours of impertinence, and we are disposed to sum up our thoughts in characteristic German fashion by the one word "Kolossal!" To do so, however, would be to shirk responsibility and would be manifestly unfair to the authors. In sober truth our admiration for the extraordinary industry and pertinacity of Dr. Wilbrand and Dr. Saenger is equalled, if not surpassed, by our appreciation of the accuracy and immense value of their treatise. Neurologists and ophthalmologists alike must in bounden duty, if not in spontaneous enthusiasm, acknowledge their profound indebtedness to the authors. Here we find gathered together and conscientiously sifted well-nigh all that is worthy of survival in the literature of the subject. It is true that the English reader will discover important lacunæ; he will fill them better than foreigners, for of course they represent the work of his fellow-countrymen, with which he is quite familiar. So habitual is this feature in German books that it is futile to comment upon it and we are duly grateful to find that the work of Gowers, Head and Campbell and some other English observers receives recognition.

It will have been realised that the treatise is encyclopædic, and, as such, is essentially a work of reference. It is, however, astonishingly readable when taken in small doses, and this is largely due to the fact that the authors' own knowledge of the subject is not only encyclopædic but is illuminated by vast practical experience. They make the dry bones live by their own vivifying influence. We may not always agree with them, though we generally do, but in any case their presentation of the arguments cannot be dismissed with contempt.

The general diagnosis and symptomatology of various forms of amblyopia and amaurosis with which vol. iii., part 2, opens are treated in a particularly masterly and helpful manner. The various combinations of normal and pathological conditions of the central vision, the field of vision, adaptation, the pupil reactions, and the fundus oculi as seen by the ophthalmoscope, in their relation to the underlying disease could scarcely have been better presented. The relationship of the deep and superficial reflexes to visual defects is next discussed, followed by that of disturbances of sensation and of mobility to various forms of amblyopia. The disturbances of speech in their association with amblyopia bring this chapter to a conclusion.

The second and final chapter deals at great length (pp. 643–1044) with every conceivable cause of sudden amaurosis. After reviewing the influence of sex, the site of the lesion, sudden unilateral and simultaneous bilateral amaurosis, the nature of the amaurosis, and its influence upon the mind and character of the individual, the authors discuss the various causes—tumour, cerebral hæmorrhage, embolism and thrombosis, injury, lightning, infection, uræmia, meningitis, loss of blood, intoxication, functional nervous disease, migraine, hysteria, epilepsy, chorea, and blepharospasm. We think that they would have done wisely if they had not devoted so much space to many of these causes—e.g., injury—which cannot be so exhaustively or satisfactorily discussed in a work of this nature as in special monographs.

The book is excellently printed and well illustrated. The fact that the micro-photographs are so much better than is usual in German publications probably accounts for the enthusiasm which the authors evidence towards Dr. Reuter who prepared them. They are adequate but by no means superlatively good. There is a good index, but this might have been made much more exhaustive with advantage, for the treatise will certainly be used chiefly as a work of reference, and as such we commend it very heartily to all neurologists and ophthalmologists.

LIBRARY TABLE.

Sanitary, Maritime, and Quarantine Council of Egypt: Scientific Reports of Members of the Medical Staff. Edited by MARC ARMAND RUFFER, President of the Council. Alexandria: Société de Publication Egyptienne. 1905. Pp. 206.—The papers in this interesting publication are based on the work done in the laboratories of the Sanitary, Maritime, and Quarantine Council of Egypt. These laboratories were established primarily for diagnosis but members of the staff were encouraged to spend their spare time in bacteriological and pathological investigation and the results of this encouragement have borne good fruit. The opening paper is one on the Diagnosis of Vibrios, by Dr. Milton Crendiropoulo of Alexandria, in which he considers the characteristics of cholera and dysenteric *organisms*. The author has endeavoured to base a method for the diagnosis of these organisms on their different biological reactions, such as the agglutination, saturation, Pfeiffer's and fixing tests. He describes also the hæmolytic properties of the cholera vibrios. Dr. Felix Gotschlich writes on the Cholera and Cholera-resembling Vibrios met with in the Pilgrims returning from Mecca. Dr. O. Zirolia contributes a short paper on Six Vibrios Isolated from the Water of Ships calling at Port Said. This is followed by an interesting paper by Dr. Armand Ruffer and Dr. Crendiropoulo on the Presence and Formation of Agglutinins in the Blood. In this article are considered the agglutinating properties *of cultures* freed from bacilli, of the formed constituents of the blood, of *non-immunised* and immunised animals, and also of their polynuclear *leucocytes*. Dr. Crendiropoulo and Miss B. Sheldon Amos follow with a paper on the Agglutination of Vibrios, in which they show that chloride of calcium greatly favours this phenomenon, and this result they in a further paper elaborate as regards the true cholera vibrios. Dr. Ruffer writes on hæmolytic and on hæmosozic serum, and on the toxic properties of bile and on antihæmolytic serum. By the same author, in conjunction with Dr. Crendiropoulo, is a note on hæmosozic sera and those substances favouring and inhibiting the action of the hæmolysins of bile and serum; on the lysogenic and hæmosozic properties of urine; on the hæmosozic power of chloride of *sodium* and its mode of action; and on a hitherto undescribed change in the urine of patients suffering from nephritis. Miss Sheldon Amos writes next on the effect of ligature of one ureter. Next follows the description of a newly devised technique of bacteriology by Dr. Ruffer and Dr. Crendiropoulo, by which the diffusible products of the life of micro-organisms can be obtained without subjecting them or the culture media to the action of heat, filtration, or chemical reagents; then a note on the dialysis of toxins through collodion walls, whilst the final paper deals with the results obtained by disinfection and isolation against cholera. These valuable reports contain much interesting work which reflects great credit on the authors.

Reports on the Commission appointed by the Admiralty, the War Office, and the Civil Government of Malta for the Investigation of Mediterranean Fever under the Supervision of an Advisory Committee of the Royal Society. Part V. London: Harrison and Sons. Pp. 85. Price 2*s.* 6*d.*—The first report of this volume is one by Staff Surgeon E. A. Shaw, R.N., on Experiments with Monkeys on Various Possible Paths of Infection in Mediterranean Fever. The results of his researches in this respect show: (1) the possibility of infection through the eyes and nose by means of highly infected dust; (2) the possibility of infection by unlimited contact; (3) the possibility of infection by food contaminated with pure cultures of the micrococcus Melitensis and with dust soiled with urine containing this organism; and lastly, the possibility of infection by the urine of patients through skin scratches, wounds, and abrasions. *Staff Surgeon Shaw next contributes* a paper on Immunity, Serum, Toxin, and Vaccine *Experiments on* Monkeys with regard to this fever. He finds that animals which have previously had an attack of Mediterranean fever react much less markedly than others which have not to the same doses of the living specific organism, hence a previous attack confers some protection. With regard to the future successful development of a therapeutic serum the experiments did not give any hopeful indication. It was also found that the toxins of the organisms did not produce the same clinical phenomena as the living micrococcus Melitensis, no fever being developed and the production of agglutinins being less; whilst the author considers that his experiments afford an extremely hopeful outlook with respect to the future of protective inoculation in man against the fever. The same writer also makes some interesting observations on goats, cats, and rats, and ambulatory cases in connexion with Mediterranean fever. No seasonal prevalence of the fever amongst goats similar to that existing amongst man was found to exist in this respect but the number of animals examined here was small. Dr. J. W. H. Eyre writes on the Micrococcus Melitensis and Anti-serum. No protective properties were found nor were any therapeutic results obtained. Major W. H. Horrocks, R.A.M.C., contributes an article on the Mediterranean Fever *in Gibraltar*, in which he shows that the rapid disappearance of the disease, which commenced in 1905, was intimately connected with the *exodus* of infected goats from the Rock, the effect of which was far greater than any caused by the part played by improved sanitary conditions, such as the disconnexion of waste pipes and house drains from sewers, and so on. The report concludes with a very complete bibliography of the disease.

The Control of a Scourge or How Cancer is Curable. By CHARLES P. CHILDE, B.A., F.R.C.S. Eng., Surgeon to the Royal Portsmouth Hospital. London: Methuen and Co. 1906. Pp. 299. Price 7*s.* 6*d.* net.—This book is not intended for the members of our profession so much as for the public and for those non-medical workers who are able to influence the public by the dissemination of highly important knowledge. Though there is *nothing new* in the book, Mr. Childe puts forward the most recent ideas in regard to cancer and its treatment very clearly; his plea to the public to go early to the surgeon and not to allow any delay should carry conviction. As Mr. Childe says: "To any who will take the trouble to study this question, to any who will look into the results of former years and compare them with the results to-day, the fact that a revolution has been in progress during the last quarter of a century in the treatment of cancer is clear." The book is an attempt to substitute sound knowledge and hope for ignorance and despair. A quarter of a century ago cancer was considered alike by the medical *profession* and the public a hopeless complaint; even the signs by which *students* were taught to recognise it were those of the disease in its advanced and therefore incurable stage. The operations were performed with the view of prolonging life and temporarily alleviating suffering. This, however, is not the general attitude of the profession towards cancer to-day. The objective of the surgeon is to cure. An organised system of education in the early signs of cancer is of the greatest importance. Leaving out of the question the education of the medical student, the author thinks that nurses, midwives, the wives of the clergy, district visitors, and others could be trained in the knowledge of the early *signs* of cancer. The author impresses on the public: (1) that cancer is, in its beginning, a local disease and is confined at first to the part which it first attacks; and (2) that from its local site of origin it generally very soon disseminates itself into the system of its victim. In the chapter entitled, "A Glimpse of the Goal," he assures his readers that "cancer itself is not incurable, but that it becomes incurable from the simple fact that its unfortunate victims harbour and nurse their cancers till it is too late. It is not the disease which is incurable, it is the delay that makes it so." Mr. Childe, of course, recognises that science may some day trace cancer to its source and that possibly a cure other than by operation may then be found. But, as he says, it is useless to indulge in speculation, and the cardinal fact is that at present early operation is the only remedy, and it is folly to attempt any other treatment while the disease is still capable of removal.

Alcohol: the Sanction for its Use. Translated from the German of Dr. J. STARKE. London: G. P. Putnam's Sons. Pp. 317. Price 6*s.*—The volume before us is a contribution to the great controversy on the use of alcoholic beverages that will at first sight perhaps be joyfully hailed by that party which the author denominates as "alcoholists"—i.e., those who are accustomed to their use in moderate quantities; but if they inquire further they will find that Dr. Starke's argumentative zeal is scarcely tempered with that logical discretion which is desirable in approaching so debateable a matter. The book is informed with a casuistry of which the following argument forms an excellent example. He premises that in 25 per cent. of cases of arterio-sclerosis there is a history of chronic alcoholism, and then proceeds to argue that because 75 per cent. of cases occur without such a history we are not justified in concluding that the alcohol was the causative factor in any one of the 25, but that "so and so many would have occurred without it and must have been due to some other cause." In another chapter the author insists strongly that the use of caffeine is responsible for much of the increased nervous stress of modern life, but he allows the cup of coffee provided that its injurious effect in dilating the visceral vessels and contracting those of the skin be counteracted by a moderate dose of alcohol. If it be requisite to set such a thief to catch a thief, the regular ingestion of a post-prandial tabella of nitro-glycerine by all tea or coffee drinkers should *a fortiori* receive the author's support. Alcohol is strongly supported as the only article consumed by us that decreases our nervous excitability. The existence of confirmed drunkenness is put down not to the deleterious effects of alcohol but to the special degenerative tendency of the individual and his environment. We are told even that "the moderate drinker has no poisoning of the brain, provided it is only occasionally he gets 'elevated.'" The effects on the heart and liver of those who habitually live too well are laid more at the door of the extra fluid and nourishment consumed in their alcoholic beverages than of the alcohol itself; in fact, they are advised to reduce their diet to compensate for the extra nourishment in their wine and beer. Dr. Starke appeals unconvincingly to everyday experience and common sense in defence of the general use of alcohol, and makes fusel oil and caffeine the scape-goats for its alleged iniquities. Although he ostensibly collects the scientific evidence in the matter the results of Kraepelin's experiments are ignored. In conclusion, we record our conviction that no one is likely to be shaken in his opinion by the perusal of this book, except perhaps a few "alcoholists" to whose sense of logic it has proved too severe a shock! The translation appears to have been carefully done.

Lectures on Medicine to Nurses. By HERBERT E. CUFF, M.D. Lond. Fifth edition. London: J. and A. Churchill. Pp. 269. Price 3*s.* 6*d.* net. *Nursing, General, Medical, Surgical.* By WILFRED J. HADLEY, M.D. Durh., F.R.C.P. Lond., F.R.C.S. Eng. Second edition. London: J. and A. Churchill. Pp. 370. Price 3*s.* 6*d.* net. *Sick Nursing.* By H. DRINKWATER, M.D. Edin. "The Temple Primers" Series. London: Dent and Co. Pp. 138. Price 1*s.* net.—Of the making of text-books there is no end and the reappearance of two manuals that we have before reviewed reminds us of the increasing choice of books to which nurses can turn for guidance. Dr. Cuff's contention in his preface that the nurse must rely on medical text-books for a brief account of individual diseases hardly now holds good but we will say at once that she could not turn to a more admirable work of its kind than his own. It embodies instruction that is now probably imparted to nurses training at every large hospital and many small ones by their lecturers on medicine, but it would hardly be possible to find a more clearly and succinctly expressed account of the leading symptoms and *rationale* of treatment of the chief medical diseases affecting the various systems. Dr. Cuff's sole object is to assist nurses in the intelligent appreciation of their duties and he repeatedly warns them against the danger of letting a fuller knowledge tempt them to overstep their office. We previously suggested that this little book might prove useful to the student entering on the strange field of clinical medicine and a fresh reading of it warrants us in repeating this suggestion. The chapter on Hysteria will prove especially useful to those unused to dealing with its manifestations. Dr. Hadley's volume has reached a second edition. It deals more shortly with separate diseases but embraces the wider field of surgical and puerperal nursing; the latter subject we consider would be better treated in a separate manual. The book affords a useful and adequate manual of instruction in modern nursing and, although it presents no strikingly new feature, is carefully written and arranged and therefore likely to find a place amongst the standard text-books on the subject. Dr. Drinkwater's book is, we learn, intended for the use of students attending lectures in connexion with the St. John Ambulance Association and evening continuation classes. It certainly contains information which would be profitable to such students but it is devoid of that system which should be adopted in even the most elementary manual—e.g., the chapter on Disinfection includes bronchitis, dropsy, appendicitis, and gout, each treated in a few lines.

The Kennel Encyclopædia. Edited by J. SIDNEY TURNER, M.R.C.S. Eng., Chairman of the Committee of the Kennel Club. Part I., Vol. I. Sheffield: The Encyclopædic Press. 1907. Pp. 112. Price 5*s.*—This is the first part of a serial publication which is to give us encyclopædic information about dogs, and takes us from "abdomen" to "badger"—i.e., it practically comprises the letter A. The contents are of considerable medical interest inasmuch as such subjects as alopecia, anæmia, asthma, amputations, anæsthetics, and antiseptics are dealt with, as well as the ancestry of the dog and its possible use in ambulance work. The articles on Veterinary Medicine by Professor F. Hobday, F.R.C.V.S., and Mr. F. W. Cousens, M.R.C.V.S., are short and exactly what they should be when addressed by a professional man to a lay audience—that is to say, they help the layman to grasp the situation which has to be dealt with, but they do not encourage him to damage the chances of his dog's recovery by inexpert medication. Major E. Hautonville Richardson writes on the Value of Dogs as Ambulance Assistants, and expresses a more favourable opinion upon their possible uses than we should be prepared to do. Mr. R. I. Pocock, F.L.S., superintendent of the gardens of the Zoological Society, contributes a very interesting article upon the canidæ generally, and shows that the rough classification into dogs, wolves, jackals, and foxes, which we find in most popular writings upon the ancestry of the dog, cannot be brought into accord with scientific classification. The "Kennel Encyclopædia" promises to be a most useful work of reference. It is proposed to complete the work in four volumes of four parts each, but judging from the fact that one whole part has been required for the letter A we should not be surprised to learn that a supplementary volume was required.

JOURNALS AND MAGAZINES.

The Bio-Chemical Journal. Edited by BENJAMIN MOORE, M.A., D.Sc., and EDWARD WHITLEY, M.A. Vol. II., No. 4, April 2nd, 1907. Published by the Bio-Chemical Department, Johnston Laboratories, University of Liverpool. Annual subscription for volume of about 480 pages, 15*s*.—The articles contained in this number are: 1. On the Catalytic Decomposition of Hydrogen Peroxide by the Catalase of Blood, by C. A. Lovatt Evans. Mr. Evans shows that there is an optimum concentration of hydrogen peroxide for each concentration of enzyme. The optima do not vary directly as the enzyme concentrations but more nearly as their square roots. 2. On the Influence of Kreatinin in Modifying certain Reactions of Sugar in Urine, by Hugh Maclean. The author shows that kreatinin is the substance which in normal urine interferes with Fehling's solution by holding the reduced suboxide dissolved and that the inhibitory effect is not due indirectly in the application of that test to the generation of ammonia. The proportion of kreatinin present in urine affects the colour of the precipitate. A yellow precipitate takes place where the cuprous hydrate is finely divided, a red precipitate where it is granular. Kreatinin when boiled with caustic alkali of half the strength in which it is present in Fehling's solution quickly diminishes in amount, part becoming converted into kreatin and part being destroyed. Kreatin resists the action of caustic alkali much longer than kreatinin. 3. On Zymoids, by A. R. Bearn and W. Cramer. The authors show that strong solutions of enzyme heated to about 60° C. for half an hour have a strongly inhibitory effect on the unheated enzyme. The inhibition is destroyed at 100° C. and is not due to an antiferment; it is brought about by a reaction between the substrate and substances present in the enzyme that has been rendered inactive. These substances dialyse only very slowly through parchment. These facts point to the existence of zymoids which are probably pre-formed in the enzyme preparations. 4. The Coagulation of the Blood and the Effects of certain Drugs and Toxins upon it, by C. J. Coleman. 5. The Excretion of Kreatinin in a case of Pseudo-hypertrophic Muscular Dystrophy, by E. I. Spriggs. The quantity of kreatinin discharged is diminished.

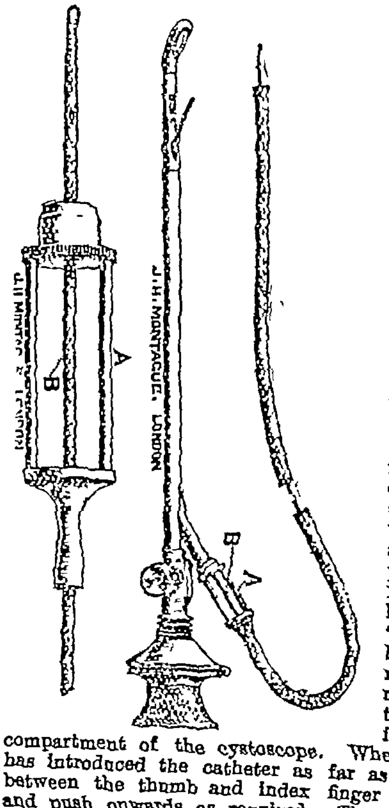
Man.—The April number contains photographic portraits of 22 representative members of 16 Bantu South African tribes. These natives were brought together at the Victoria Falls by the Government of Rhodesia in 1905 in order that they might be seen by the members of the British Association for the Advancement of Science, the annual meeting of which was then being held in South Africa.

Caledonian Medical Journal.—The April number of this journal opens with a long article on the Laminaria Tent, contributed by Sir William Sinclair, professor of obstetrics and gynæcology in the Victoria University of Manchester. He expresses his "firm conviction that just as the curette was discredited, owing to universal professional ignorance of the conditions essential to safety and fell into disuse for a time, so the laminaria, properly prepared for gynæcological and surgical purposes ...... will be ultimately recognised throughout the civilised world as the unique material." He gives the following directions for making aseptic laminaria tents. "Shape the tent while the tangle is fresh out of the sea, perforating as required. Desiccate completely. Place in solution of perchloride of mercury (a solution of 1 in 2000 is quite strong enough) until the tangle regains its original size by saturation with the solution. Again completely dry the tent. Finish by polishing and introduction of strong linen thread." The tent may remain *in situ* 24 or even 48 hours with advantage. No force should be employed in introducing it and before use it should be softened in hot water or in hot antiseptic solution. In the editorial columns it is announced that the annual meeting of the Caledonian Medical Society will be held in Bradford on July 26th and 27th.

New Inventions.

ASEPTIC URETERAL CATHETERISATION SHEATH.

THIS comprises two detachable portions—viz., metal and rubber. The metal one consists of a perforated screw cap and a conical-shaped portion (with broad base and funnelled apex); these are fixed to one another by two thin side rods marked A in the diagram. The screw-cap is a replica of the one on the upper end of the compartment for transmitting the ureteral catheter of the *Nitze catheterisation* cystoscope. A piece of rubber tubing, 22 inches long and with a bore of *one-eighth* of an inch, completes the apparatus. The rubber tubing is made to slip over the bulbous bell-mouthed apex of the "cone" and the whole is *screwed on* to the cystoscope. The ureteral catheter having been introduced into the rubber tubing the catheter is pushed onwards. Owing to the funnel-shaped apex of the metal portion the catheter B readily enters the lumen of the "cone," reappears between the two metal *connecting* rods, and negotiates the orifice leading into the ureteral compartment of the cystoscope. When the *vis a tergo* has introduced the catheter as far as possible grasp it between the thumb and index finger of the right hand and push onwards as required. The advantages of this sheath are obvious. It is simplicity itself. The present real dangers from sepsis owing to the catheter touching the operator's face, hair, and being breathed upon are avoided. It is easily sterilised, for both rubber and metal portions will boil. Excepting for the end remote from the tip there is no need to handle the ureteric catheter until it is well inside the cystoscope. The rubber tubing can lie anywhere, over the cystoscopist's shoulder, in between the patient's legs, &c. *Without* this addition there is a great liability for the catheter to double up at the point of handling when it is being pushed onwards; the opposing thumb and index finger slide up and down the side rods and give the necessary support. It is necessary to use a lubricant for the rubber tubing in order to make the catheter travel more easily; a suitable one is *paroleine*, made by Messrs. Burroughs, Wellcome, and Co., and as this has now replaced glycerine as a urethral lubricant it is always handy; it may be introduced by a sterilised



pipette. It is always as well to have a few spare "washers" in the cystoscope box, for when the sheath is being sterilised this washer in the screw cap is apt to boil out and is lost. The cable attachment to the cystoscope should point upwards so as not to be in the way of the "sheath" during manipulation. Gum elastic tubing has been tried in place of the rubber but the latter is more suitable. A spring arrangement for grasping the catheter while it is being pushed onwards in order that the fingers do not come in contact with it at all was too complicated. In lieu of this the hands must, of course, be efficiently sterilised before touching the catheter. The illustration also shows Mr. John Pardoe's most excellent eye-piece fitted on to the cystoscope.

The "sheath" may be obtained from Mr. J. H. Montague, 69, New Bond-street, W.

R. J. Willan, M.B., B.S. Durh.,
Senior House Surgeon, St. Peter's Hospital for Stone, London.

A NEW INSTRUMENT FOR TREATING GLEET.

For some six years I have successfully used a method of treating chronic urethritis, chiefly where the follicles are engaged, and I can recommend it to others where ordinary methods fail. This method embraces (1) the emptying of the follicles by aspiration and the passage of large bulbs; and (2) when they are empty and kept patent the injection of certain solutions into them by means of a large injector. Follicular urethritis is common, especially in the prostate, and its treatment is difficult and uncertain. Tersely, the enigma presented is to get the secretion out of, and the injection into, the follicles and utricle. Up to the present time massage, the passage of large sounds, Kollman's dilator, and sometimes the obliteration of the follicles of the penile urethra by caustic or electric action were the aids possessed by surgeons. The first three are often inefficient, while the last two are of only occasional utility and are always difficult. At first I used Erichsen's syringe, to which I attached a small aspirator. It was too small and the metal between the holes pressed transversely on the ducts. The instruments represented in the accompanying figures are much more effectual; Fig. 1 is for the deep urethra and Fig. 2 is for the anterior urethra; Fig. 3 is a connexion for an aspirator. The perforations are oblong. A and A are indiarubber discs which travel on the instruments and block the meatus. Barred instruments may be used. Having well smeared them with liquid paraffin the particular one selected is introduced, an aspirator or exhausting syringe is applied, and an intra-urethral negative pressure is slowly and gently created. The urethra is then flushed and swept clear of its secretion by a large bulb shaped like a turkey's egg. The injection is then used through these instruments or other large injectors. I wait some time after injecting so as to allow the spasm which grasps the instrument to subside. I am much indebted to Messrs. Arnold and Sons, West Smithfield, London, E.C., for carrying out my suggestions. The instruments are made of silver.

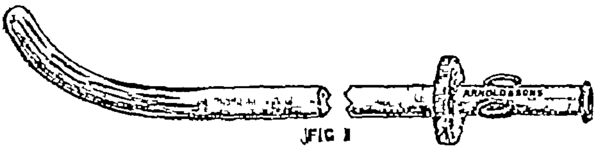


FIG 1

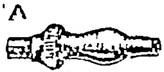


FIG 3

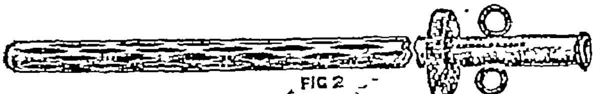


FIG 2

SCALE ABOUT ½

Whilst on the subject of aspiration I may offer to others an aid which has frequently been of good service to me. I refer to drainage of the bladder by means of aspiration, whether this be suprapubic or otherwise. I make use of a resistant indiarubber tube with a tap to connect the catheter to a large bottle, the air of which is occasionally exhausted by a Potain apparatus. The tap is now and then turned so as to aspirate the urine away, thus keeping the bladder empty. I have found this device more effectual than even Cathcart's ingenious plan of syphonage.

Finsbury-pavement, E.C. James MacMunn.

THE FIRST FRENCH CONGRESS OF STOMATOLOGY.

The Société de Stomatologie, wishing to celebrate the twentieth year of its foundation, has decided to organise a Congress of Stomatology in Paris which will be held from August 1st to 5th, 1907. It is stated that this Congress is intended to demonstrate that stomatology is a branch of medicine—a medical and surgical specialty—just as much as is ophthalmology or laryngology, and that it requires from those who practise it a complete knowledge of medicine. The diseases of the mouth, teeth, and jaws, it is urged, are closely related to other diseases and to general pathology, and a correct knowledge of this relation is necessary for all who practise stomatology with all that it includes.

In addition to many papers and demonstrations promised by the leading members of the Société de Stomatologie a number of foreign medical men have promised to take an active part in the proceedings. Several distinguished dentists from America, including Professor Talbot (Chicago), Dr. Latham (Chicago), Dr. Brown (Milwaukee), Dr. Fletcher (Cincinnati), and Dr. Rhein (New York), have already promised to give papers or demonstrations. A museum of all the various models, instruments, pathological specimens, &c., which are of use and interest to the dental surgeon is being formed, and it is hoped that England will also contribute largely to the success of this department. The names of M. Cruet, president, and M. Galippe and M. Redier, honorary presidents, appear on the committee of organisation. M. Chompret, 182, Rue de Rivoli, Paris, is the secretary, from whom all information can be obtained.

Immediately following this congress (August 6th and 7th) the International Stomatological Association, having the same objects, will hold its first meetings and will occupy itself with questions relating to legislation and professional organisation, education, oral hygiene, and international stomatological bibliography. The committee of organisation of this association is formed of one representative from each country and includes several well-known names, such as those of Professor J. Arkövy of Budapest, M. Cruet of Paris, Dr. H. Allaeys of Antwerp, and Professor Eugene Talbot of Chicago. Dr. J. Sim Wallace of London represents England.

Membership of the Congress of Stomatology is open (1) to all members of the Société de Stomatologie de Paris, whether charter or regular members; (2) to all legally qualified medical men practising oral or dental surgery—including, therefore, medical graduates of a French or foreign university or the possessors of the diplomas of the Royal Colleges of Great Britain and Ireland; and (3) to individuals who by reason of their work, knowledge, or attainments may be admitted by the committee of organisation. Meetings will be held in the amphitheatre of the Faculty of Medicine and the proceedings will include four discussions upon stomatological questions; communications on any subject in stomatological science, mechanical dentistry included, may also be presented. Patients, specimens, drawings, casts, and instruments will be shown. The membership subscription is 25 francs. French will be the official language of the congress but Esperanto will be admitted in the discussions; English and German will also be admitted if followed by a French summary of the lecture or discussion.

Medical Defence Union.—The annual general meeting of the Medical Defence Union will be held at the Midland Hotel, Manchester, on Thursday, May 16th, at 4 p.m., to receive the annual report of the council and the statement of accounts, together with the auditor's certificate for the year 1906; to elect three members of council, Mr. J. Roche Lynch, Dr. A. A. Mackeith, and Dr. F. J. Wethered, honorary treasurer, retiring by ballot under Rule 28, but offering themselves for re-election; to appoint an auditor and to fix his remuneration; and to vote for the payment of railway fares as expenses incurred by provincial members of the council attending council meetings.

THE LANCET.

LONDON: SATURDAY, MAY 4, 1907.

The University of London and Medical Education.

THE biennial semi-general election to the Senate of the University of London is a somewhat lengthy proceeding. The vacancies which occur every two years by the compulsory retirement of one-half of the senators are filled partly by nominations of the Crown and by professional bodies, such as the Royal Colleges, and partly by elections under a wider franchise. The teachers who are members of their respective Faculties elect a certain number of representatives, and the graduates, as members of Convocation, choose others. The Crown and the London County Council generally lead off by nominating their representatives in February, while Convocation postpones its elections till the last moment, which is in the first week of May. At the present time therefore the greater number of the vacant posts have been filled and it only remains for Convocation to declare its choice at the elections which will take place next week. Most of the Convocation elections will this year be contested, as was also the case with the elections in the Faculty of Medicine. The interest which is being shown in the present semi-general election is a good augury for the ultimate development of the University. It must, however, be admitted that some of the results already declared as well as some recent results in by-elections are not altogether satisfactory. There is an indication of a temporary ascendancy of reaction against the movement for the conversion of the old examining board into a real teaching University. This was perhaps inevitable, but it is none the less disappointing. The relations of the University to medical education in the metropolis is naturally a subject which has the greatest interest for readers of THE LANCET. It appears, indeed, that questions of medical policy are at the moment being canvassed in other faculties besides that of medicine and may indirectly affect the Convocation elections by graduates in non-medical subjects. At any rate, the standard of medical degrees and the concentration of earlier medical studies are two subjects upon which memoranda and circular letters are being actively distributed.

Our views on these two important questions of policy should be well known to our readers. We have from the first consistently advocated those reforms in the constitution of the governing body of the University which culminated in the complete reorganisation of the Senate six years ago. The conviction that a mere examining board could never be a suitable substitute in this great city for a living, teaching university was the motive force which led after years of struggle to this much-needed change. It was well recognised, however, that the transformation of the machinery of administration was not the end in view but was merely the means of enabling those who knew how to do so to carry reform into effect. The extraordinary cumbersomeness of the new machinery was almost enough to appal the stoutest reformer, and recent electioneering methods have shown how well this complicated mechanism facilitates the attacks of those who sigh for the good old days of intricate examinations, ill-educated candidates, and wholesale rejections. To these admirers of the old examining board a high standard of examination and a valuable university degree can only be indicated by the large proportion of candidates whose education is so faultily conducted that they fail to obtain recognition of their abilities. Any attempt to coördinate education and examination is regarded by such persons as a step in a downgrade competition and leads to a cry that the University is lowering the standard of its degrees. THE LANCET has always maintained that bare justice to Londoners who desire to study medicine demands that the University shall so adapt its tests and its teaching to each other that the industrious student of average ability shall be able to obtain a pass degree in his own city and not be compelled to migrate to the provinces for this purpose. For the reconstituted Senate to adopt any policy which does not ultimately lead to this end would be to fail in its obvious duty to London. The proposition that no lessening of the percentage of rejections can be achieved except by sacrificing the value and reputation of the degrees can only be maintained by those who have no knowledge of what constitutes a university. We do not doubt that the Senate fully recognises its duty in this matter and will press on in its good work of coördinating courses of study and their corresponding examinations, confident that by this means only can it satisfactorily lessen the appalling waste of educational energy indicated by a ridiculously high percentage of rejections. In furtherance of this policy of true university progress we cordially support the candidature of Sir THOMAS BARLOW, Mrs. BRYANT, Dr. CHARLES MARTIN, the Rev. VAUGHAN PRYCE, and Professor SYLVANUS THOMPSON at the forthcoming Convocation elections.

On the question of the concentration of the teaching of the earlier medical subjects in two or three institutions under the direct control of the University we see nothing to change our belief that the decision arrived at by the Faculty of Medicine four years ago was a wise one. Too much importance has, perhaps, been attached by some to the rejection by the Faculty of Medicine at the recent election of its two sitting representatives upon the Senate. It is notoriously difficult at elections to limit the controversy to a single issue and it is obviously undesirable to do so in electing the senate of a university. It is impossible to accept the election of two new senators as a clear indication of the views of the Faculty upon a complicated question to which in the past it has accorded the utmost attention and given the clearest expression of its wishes. Before believing that the majority of medical teachers in London are so indifferent to the best interests of medical education as would be indicated by a blind adherence to existing conditions, we should desire to be assured that any modification of policy was arrived at after as full an investigation of the facts as was given to them three or four years ago. We are aware of no change in the serious financial position of medical education in

London, except such as may have been induced by a slight recrudescence of the old mutual jealousies of competing schools which we are confident will ultimately be replaced by a spirit of scientific comradeship in a common university. Meanwhile, competition is an expensive luxury in the pursuit of which the teachers of medicine cannot hope to receive the pecuniary support of the public. It is only by agreeing to a concentration of their efforts that the two-fold advantage of economy and of public support such as has been accorded to medical education in other cities can be obtained by the metropolitan medical schools. The extravagance of maintaining 10 or more separate schools of anatomy and physiology for the number of students engaged upon these subjects in London is too obvious to need serious argument, and two or three facts stand out which make it, we think, impossible to continue the existing arrangements with any prospect of permanent success. No teacher in any of the earlier subjects of medical education in London receives sufficient remuneration to justify him, unless he has private means, in refusing a professorship in almost any other university in the world. The majority of the teachers of the clinical subjects in London either obtain no remuneration at all or the merest pittance, in striking contrast to the perhaps somewhat extravagant payment received by the physicians and surgeons who taught in the medical schools during the last generation. The buildings and laboratory accommodation in the medical schools of the metropolis are for the most part markedly inferior to similar provision on the continent, in America, and even in the provincial universities of our own country. We yield to none in our admiration of the energy and self-sacrifice of the London teachers and of the splendid results which they have obtained in difficult and disheartening circumstances. But these conditions cannot go on and we are confident that the more seriously the position is studied the clearer it must become to the teachers, as well as to the Senate, that "concentration" is imperative if London is to retain its position as a chief centre of medical education. It is unfortunate that Sir THOMAS BARLOW has stated that in view of the recent Faculty election he will withdraw his support from the Senate's concentration scheme. We do not believe that if Sir THOMAS BARLOW fails to secure election the Senate will relinquish its efforts to improve true education in London, notwithstanding that some of his opponent's supporters seem to desire it. Nor can we believe that the defeat of Dr. J. KINGSTON FOWLER and Dr. J. ROSE BRADFORD after six years' loyal and arduous service will in any way lessen the determination of the majority of the Senate to forward the establishment of an Institute of Medical Sciences on the lines so carefully laid down by the Faculty of Medicine.

Medical Expert Evidence in the United States of America.

RECENT legal procedure in America, in relation as much to medical evidence as to any other subject, may not be expected to furnish this country with any valuable examples to copy. Our New York correspondent tells us that the various strategical moves of the prosecution and defence in the notorious THAW case were supported by expert medical evidence on either side with the result that such testimony has been brought into considerable contempt in the United States. We are not surprised to learn it. But a proposal to change the procedure with regard to medical evidence in contested cases has been made in the State of Maine, which is of genuine interest to all who have experience in Great Britain of the undesirable conflicts of expert testimony which arise in many trials in courts of law. These conflicts are not in the least confined to medical topics, but for some reason or other the public considers that a difference of medical opinion in the witness-box is a clear proof of ignorance or venality, while engineers, chemists, and lawyers may contradict each other over and over again and remain honest if opinionated citizens. The suggested innovation in the State of Maine appears to have been formulated originally by Mr. L. A. EMERY, now Chief Justice of the Supreme Court of Maine, before the State Bar Association of his province, his recommendations having since been embodied in a Bill. The judiciary committee of the State legislature reported adversely to this Bill, but the Medico-Legal Society of New York has interested itself in the matter and is endeavouring to bring its principles before the legislatures of other States after securing authoritative opinions in their favour. The following points constitute a summary of what is objected to in the present situation in American courts: (1) the partisanship of paid medical experts; (2) the payment of large sums of money to medical expert witnesses for services supposed to be rendered by them; (3) the growth of the practice of having expert witnesses present who listen to the evidence of other medical men and are then asked for their opinions upon the evidence thus given; and (4) hypothetical questions put to expert witnesses. These points will readily be understood by medical men who have followed trials in this country in which contradictory medical evidence has been given, although possibly the undesirable features of the system may be more accentuated in the courts of the United States. Barristers also who are sometimes led into making uncomplimentary comments upon the testimony given by "experts" should agree that the partisanship observable is, as a rule, perfectly honest and unconscious, arising out of the manner in which scientific questions are contested in the law courts under a system for which the lawyers and not the expert witnesses are responsible.

The remedy proposed on the other side of the Atlantic consists, as might be anticipated, in giving the court power to appoint independent experts to form opinions, if desired, upon matters in dispute, the first section of the Bill referred to being as follows: "In any case, civil or criminal, in the Supreme Judicial Court or any superior court where it appears that questions may arise therein upon which expert or opinion evidence would be admissible, the court or any justice thereof in vacation may appoint as examiner one or more disinterested persons qualified as experts upon the questions. The examiner at the request of either party or of the court of justice appointing him shall make such examination and study of the subject matter of the questions as he deems necessary for a full understanding thereof, and such further reasonable pertinent examination as either party shall request. Reasonabl[illegible]ll be given each party of physical examination of persons, things, and places, and each party may be represented at such examinations." The remaining sections provide further details of the procedure to be followed, including power given to the court, or to either side, to call the examiner appointed by the court into the witness-box. There is no restriction laid upon the parties calling their own witnesses if they desire to do so, but it is anticipated by those in favour of the proposed measure that the practice of calling witnesses avowedly favourable to the parties tendering them will die out, on account of the disadvantage at which these would be in relation to the independent and official witness. The suggestion of such independent expert witnesses being called in medico-legal cases has been made often in this country and has received the support of important men in both the legal and medical professions. It is to be hoped, therefore, that certain of the American States may be found to give a trial to the innovation proposed. We are ourselves experimenting in a similar direction in the enlarged powers given to medical referees by our latest Workmen's Compensation Act, and it seems possible that very useful results may be obtained by combining experience gathered in two countries, each of which is aware that its previously existing system is far from perfect.

The Accommodation of Hop- and Fruit-pickers.[1]

IN a recent report to the medical department of the Local Government Board Dr. REGINALD FARRAR, one of the medical inspectors to the Board, records the result of an extensive inquiry into the lodging and accommodation of hop-pickers and pickers of fruit and vegetables in different parts of England. He has visited many hop-gardens and farms where strawberry-pickers and pea-pickers are employed, and his report gives a variety of useful information obtained by personal investigation and by discussion with growers, pickers, local sanitary and police officers, missionaries, and others. As a result of these inquiries he is able to indicate practical lines on which rural sanitary authorities *should* proceed in order to deal with the important questions of sanitary administration which arise from the enormous migration of hop-pickers and fruit-pickers which takes place during the picking season. The powers required by local authorities to secure the decent lodging accommodation of hop-pickers and others are to a large extent supplied by the adoption of by-laws such as those formulated by the Local Government Board in its model clauses of 1902. These model by-laws, together with certain alterations and amendments which have since been officially approved, are reproduced in the report. By-laws of this kind appear to have been adopted in the majority of districts concerned, although there are notable exceptions, such as the rural district of Faversham, into which about 9000 "hoppers" migrate during each season.

Dr. FARRAR'S report will strengthen the hands of local authorities in making active use of these by-laws. He shows that many hop-growers have not only provided accommodation which complies with by-law requirements, but in addition have taken trouble to afford their workers rough-and-ready conveniences of different kinds. Plans and illustrations are given of huts, shelters, cooking arrangements, and the like which have been provided at comparatively low cost, and which represent a distinct advance on the conditions which formerly obtained. The growers who have supplied lodging accommodation of a satisfactory kind are usually individuals or companies in a large way of business who can regard such provision as part of their capital outlay. The smaller grower would in some cases find it difficult to follow their example. Dr. FARRAR points out, however, that the hop industry under modern conditions has become profitable only to the grower on a large scale who can afford to practise "intensive" cultivation and scientific methods of drying and is in a position to hold over crops from one year to another. The smaller farmer without capital has now to a large extent been squeezed out of the industry. Hop-pickers may be classified as "home pickers," "foreign pickers"—i.e., persons imported into the district from large towns—gipsies, and casual vagrants. Employment of the habitual vagrant is not encouraged by most growers. A few hop-growers, however, appear to depend almost exclusively on tramps for picking, while the vagrant supplies a large part of the labour required during the pea-picking season in Worcestershire. Where "professional" vagrants are aggregated in a district they are invariably a source of great annoyance, nuisance, and even serious danger to the inhabitants. In Upton-on-Severn during the pea-picking harvest it is reckoned that the expense entailed by police precautions and extra casual ward accommodation almost counterbalances the profits of the pea-picking industry to the district. Dr. FARRAR points out that the gipsy class of pickers, nomads dwelling in their own vans and tents, contrast favourably in most respects with the habitual vagrants. They are good pickers and in general fairly orderly, though sometimes quarrelsome. Their presence is occasionally objected to by farmers on account of their pilfering tendencies, but from a sanitary standpoint does not, as a rule, afford ground for serious complaint.

As regards the most important class of pickers, the "foreigners" or casual hands from the large towns, Dr. FARRAR, as already indicated, is able to point to a general tendency to improvement in their conditions of lodging, especially in certain hop-gardens. He gives illustrations, however, of insufficient or filthy accommodation for sleeping, absence of water or facilities for cooking, and other objectionable conditions for which neither the short period of employment nor the class of people employed should be accepted as an excuse. Attention is also drawn to the way in which married couples, single men, and girls are often herded together indiscriminately under the same roof or in the same tent, and to the gross overcrowding which is liable to take place in tents and huts, especially on Saturdays and Sundays, when the hoppers have week-end visits from friends in town. There would often be great advantage in the provision of camp latrines. The amount of supervision exercised by officers of the sanitary authorities concerned varies greatly; in several districts is done by certain inspectors of nuisances, but in others the inspector does not regard this supervision as part of his duty. In one of the most important hop-growing districts Dr. FARRAR found that the local inspector had chosen the hop-picking season as the time for taking his annual leave. Much good may be done by inspectors who keep an eye on the quality of the food, particulary the fish, which is taken to hop-pickers by hawkers and others; knowledge on the part of dealers that unsound food is liable to seizure does much to insure a proper food-supply. The report makes most interesting reading and lets a flood of light in upon a somewhat dark and untrodden path in public health.

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[1] On the Lodging and Accommodation of Hop-pickers and Pickers of Fruit and Vegetables, by Dr. Reginald Farrar. London: Wyman and Sons, Fetter lane; Edinburgh Oliver and Boyd; Dublin: E Ponsonby. No. 252. Price 1s.

Annotations.

"Ne quid nimis."

THE PROVISION OF SELF-SUPPORTING SANATORIUMS FOR THE WORKING CLASSES.

ON Tuesday, May 14th, a dinner will be held at the Hotel Cecil in support of the National Association for the Establishment of Sanatoria for Workers suffering from Tuberculosis. H.R.H the Prince of Wales will take the chair and the long list of stewards contains many influential and distinguished names, which include the majority of the foreign Ambassadors and Ministers in London. The scheme was founded under the ægis of the Hospital Saturday Fund and has for its object the coöperation of friendly societies, trade unions, and other organisations to establish self-maintaining sanatoriums for workers. The board includes representatives of many sick and friendly societies of high standing and intends to make the sanatoriums entirely self-supporting when they have been built by the subscriptions of the charitable. These societies comprise about 3,000,000 workers, irrespectively of their wives and families. One concrete example will well illustrate the scheme. In the first or model sanatorium at Benenden in Kent, of which the first 30 beds were opened on March 4th, provision will be made for 200 beds, and of these the Postal Federation has guaranteed to support 25, over 40,000 of its members having undertaken to subscribe 2s. a year for that purpose. Other bodies of workers are making provision to support other beds. A special feature of the scheme is that whilst the bread-winner of the family is receiving treatment in the sanatorium the wife and children will receive the full amount of the sick pay which he would have received under the old *régime*, this being provided for by the self-imposed extra levy on the members of the society. Preference is to be given to early cases for treatment in the sanatoriums and it is proposed to provide such light employment for patients as the medical officers may deem advisable. This scheme constitutes the first serious attempt to emulate the German system of workmen's insurance. It is true that it differs vastly from that measure in not being compulsorily enforced upon the people, but the large number of workers whom it will affect and the soundness of its provision for their benefit bring it within comparison of the great Bismarckian scheme. It entirely obviates the pauperising tendency that many people see in our present system of relief, and if it is to be successful will fill an urgent national want. It is necessary, however, for the committee to appeal to public benevolence to build and to equip the proposed sanatoriums, for the affiliated societies are prevented by their constitutions from making more than ordinary donations towards the acquirement of sites and building. Money could hardly be given with a better assurance of its utility than is afforded by the objects of this National Association, and we wish it both on the occasion of this dinner and afterwards a full measure of success in attaining those ends. The value of the sanatorium system of treating tuberculosis is to some extent on its trial, while expert opinion is also not unanimous as to the best method of constructing the buildings. But no one doubts that sanatoriums are of great benefit to certain sufferers, while those as yet in existence are for the most part placed by their pecuniary demands out of the reach of working men. It goes without saying that the guiding principle of the self-supporting sanatoriums will be the practice of the utmost economy commensurate with efficiency. Anything like unnecessary extravagance must ruin the scheme.

LEAD AND ARSENIC IN TARTARIC ACID, CITRIC ACID, AND CREAM OF TARTAR.

AN inquiry was instituted some time since by the Local Government Board in regard to the contamination of tartaric acid by lead and arsenic in consequence of representations which had been made to the Board that certain manufacturers and importers refused to give any guarantee of purity in respect to lead and arsenic in the tartaric acid which they sold. The obvious result of this singular attitude might be that tartaric acid containing excessive amounts of these impurities might find its way into the market for the purposes of food or medicine. The matter was clearly one calling for settlement, since, as is well known, deleterious effects are liable to result from the continued ingestion into the human system of comparatively small quantities of lead and arsenic. The Local Government Board subsequently appointed Dr. A. W. J. MacFadden to obtain some information regarding the alleged contamination and in a report just issued he has included also some observations as to a similar contamination of citric acid and cream of tartar. It appears from the tables published in this report that in 15 out of the 30 foreign samples of tartaric acid examined the amount of lead present did not exceed 0·002 per cent.; three samples contained a percentage of lead over 0·002 but below 0·003; in 12 samples the lead exceeded 0·003 per cent., the highest figure being 0·0062 per cent. Notable quantities of arsenic were found in several of the samples of Spanish tartaric acid, but with the exception of a sample from Italy and two Austrian samples the other specimens were reported to be either free or as containing not more than one-hundredth of a grain per pound, the limit fixed by the Royal Commission on Arsenical Poisoning. In regard to cream of tartar the proportion of lead was in no case more than 0·0033 per cent., and in 11 out of the 15 foreign samples examined the amount of lead did not exceed 0·002 per cent. Only one sample of cream of tartar contained arsenic in amount exceeding the limit of one-hundredth of a grain. In the five samples of tartaric acid and cream of tartar of home manufacture the lead in no case exceeded 0·002 per cent., while arsenic was not found in any of them. It is concluded that in view of the uses to which tartaric and citric acids and cream of tartar are put, recognised definitions of objectionable impurities are needed for application by manufacturers, chemists, and analysts and for use by importers and merchants selling these materials for food and drug purposes. The requirements of the 1885 and 1898 editions of the *British Pharmacopœia* do not, it is claimed, in the case of either tartaric or citric acid serve the purpose of the *Pharmacopœia* as regards contamination by lead and arsenic. General adoption of definite numerical limits of impurity as regards these metals in tartaric and citric acid would seem to offer a more satisfactory basis for trade guarantees and for analytical practice.

Looking to all the circumstances, Dr. MacFadden thinks that having in view the quantities in which tartaric and citric acids and cream of tartar are consumed in food, drinks, medicines, and so on, it is reasonable to conclude that minute amounts of lead or arsenic below 0·002 per cent. and 0·00014 per cent. respectively would not be sufficient to justify their condemnation. Lead appears to owe its origin to the lead-lined vessels used in the manufacture of tartaric and citric acids, while arsenic is most probably derived from the mineral acids used in the process of their manufacture.

AN OBJECT-LESSON FROM AMERICA.

WE have before us the first annual report of the "Social Work permitted at the Massachusetts General Hospital," which we have read with pleasure and interest. It contains a most practical attempt to deal with a difficulty the existence of which must have been realised by every physician or surgeon attached to the out-patient department of a hospital. The gist of the work with which the report deals is neatly expressed in the first paragraph. "In most hospitals there occurs many times each year a scene not unlike that described in 'Alice in Wonderland.' '*Have some wine,' said the Hatter. 'I don't see any wine,' said Alice. 'There isn't any,' said the Hatter.*' Without any sense of the humour and pathos of the situation we say (in substance) to many patients: 'Take a vacation,' or 'Get a job,' or 'Get a set of teeth.' There is none in sight and no means of getting any. What do we do then? We pass cheerfully on to the next patient." Now it is true that this recurrent difficulty is partly met by the various Samaritan funds and surgical aid societies in connexion with our hospitals, but any one who has known of an unfortunate with one leg amputated painfully dragging himself about month after month to collect the many letters necessary to permit such an organisation to make good his deficiency will testify that our present system is far from perfect. The Massachusetts Hospital has been fortunate in enlisting the sympathies of a large body of voluntary lady workers who have organised a system of social relief work the scope of which, so far as we know, finds no parallel in the hospital life of this country. There are many channels into which their enterprising help has been turned which may be classified as follows: (1) Tuberculosis—the proper distribution of tuberculous patients into "classes" for further treatment; (2) inquiry into the hygienic conditions of patients and their proper instruction therein; (3) the instruction of mothers in infant feeding and preventive work with delicate children *in their own homes*; (4) the provision of vacations, outings, convalescent homes, and change of work for those in need of them; (5) the care of unmarried girls, pregnant, morally exposed, or feeble-minded; (6) the after-care of cases discharged from the wards; (7) work as a distributing agency of deserving cases to proper charitable institutions, insuring the maximum help for them with the minimum delay and trouble; and (8) "almoner" work, i.e., investigation of patients' financial condition. It is noteworthy that none of these schemes include the direct monetary assistance of patients, which is considered to be beyond the scope of the organisation, but all of them necessitate for their success the very diligent personal efforts of the workers. The method adopted is for the general secretary of the work to be present in the out-patients' hall to whom the presiding physician or surgeon may refer any case whose social condition requires investigation or whose requirements fall under one of the above heads. A record is kept giving the medical and "sociological" diagnoses, the disposition of the case and the outcome of it after one, three, and 12 months, and so on. If, for instance, the patient is suffering from tuberculosis steps are taken to get him admitted to a proper sanatorium, or if that be impossible he is attached to one of the "tuberculosis classes" held under medical supervision in different centres of the city where the open-air system of the disease is fully taught to him by voluntary workers who also regularly visit his home to see that their lessons are being properly carried out. This last office is rightly considered one of the most important of the system, not only for the treatment of tuberculosis but of other diseases also; the out-patient physician must only too often feel that his careful instructions in hygiene are but wasted breath when they have merely evoked the plaintive request, "Aren't you going to give me a bottle of medicine, doctor?" The provision of a living and intelligent link between the consulting room and the home is the most striking feature of the system, and given good workers should more than double the value of out-patient treatment. The remaining heads call for less comment, but it is interesting to note a branch of "rescue work" and also a clearing-house system to distribute necessitous cases to other suitable charities. The scheme has evidently been most enthusiastically organised, and although it is only yet on probation during its first year 684 new patients have been dealt with and 857 visits paid to old patients. The work thus auspiciously begun has our best sympathy and we shall follow its development with interest. If any large and practical measure of success appears to follow directly upon it we hope that the Massachusetts General Hospital will communicate the results to the lay press in this country as well as in America. A movement of this sort concerns the public most deeply. Only with the support of the public can it be organised on really inclusive lines, and then (be it remembered) entire devotion on the part of the workers will have to be given to insure success.

THE CITY OF LONDON AND THE FEEDING OF INFANTS.

IT is a very healthy sign of the times that at last public attention is being directed to the terrible scandal of preventable infant mortality and by consequence to the measures necessary for its reduction. Of these the provision of a pure milk-supply and the proper feeding of infants are incomparably the most necessary; the former is engaging the attention of our legislature and the latter is being brought more prominently before the public by its medical advisers. There is no doubt that a more scientific and widespread knowledge of the principles that underlie the proper rearing of infants is possessed by our profession as a whole than was the case a few decades ago. The ignorant mother or nurse has less licence to wreak her nefarious, if well-meaning, designs upon the infant's stomach—at least, where the family practitioner has a fair opportunity for veto; but, unfortunately, the great majority of babies who are exposed to the deadly perils of the dirty feeding-bottle and unassimilable "food" never pass under medical supervision. To reach the mothers of this class the medical officers of many boroughs have lately issued circulars containing clear and concise directions for the preparation of meals for infants, qualified by an authoritative statement of the superiority of breast-feeding during the first nine months. These gospels of hygiene take the form both of cards for hanging up in public places and pamphlets intended for broadcast distribution; one of the former, prepared by the medical officer of health of the City of London, lies before us and is an admirable example of what such a manifesto should be. Ample instructions both for breast- and bottle-feeding are given, including a much-needed warning against dummy "teats." The only rule with regard to which we would suggest a modification is this, "Always taste the food before giving it to the child," which might lead an ignorant and possibly diseased woman to take a preliminary suck at the bottle. We should prefer to see, "Taste a spoonful of food from the vessel in which you mix it before giving it to the child." The instructions given for the dilution of milk are in accordance with the proportions that are usually taught in this country. It will be interesting to note whether the recent English translation of Budin's splendid work on the nursling, in which he advocates a dietary of good and well-boiled whole cow's milk, will lead to such an adoption of his method in this country as will justify its appearance in some future manifesto for the instruction of the public of the City of London or elsewhere. The present one includes a few wholesome rules of hygiene for both mother and child.

BREAKFAST FOODS.

Professor Robert Harcourt has contributed to the *Journal of the Society of Chemical Industry* of March 30th a valuable paper on the chemical composition, digestibility, and cost of several wheaten and oaten products that have been placed on the market under the names, "breakfast cereals" and "breakfast foods." According to the claims made for some of these foods they are not only perfect foods in a condensed form but they are also brain tonics and possess a variety of wonderful virtues. Professor Harcourt ruthlessly looks below the surface of mere newspaper "puffs" and shows by a series of analyses how little these extravagant claims find justification in fact. The various breakfast foods may be roughly divided into four classes: 1. The old forms of uncooked granulated oatmeal and the wheat farinas. Foods of this class are served after cooking either for a short time or for several hours. 2. Partially cooked rolled and flaked grains. In manufacturing these foods the grain is softened by steaming and then rolled and dried. In this way the food is slightly cooked and may be subsequently prepared for the table in a very short time. 3. Cooked foods—e.g., shredded wheat, which may be served at once without further cooking. 4. Malted foods—e.g., Force and Grape Nuts, which are supposed to be both cooked and partially digested. Professor Harcourt examined the following breakfast foods: Granulated and rolled oats, Quaker Oats, wheat farina, wheat germ, and rolled wheat, flaked barley, cornmeal, Orange Meat, Force, Norka, Malta Vita, Grape Nuts, Canada Flakes, shredded wheat, and rice flakes. Of these, the oatmeals and Norka, an oaten product, contain the most proteins and fat, while all the other foods are richer in carbohydrates. From a consideration of the data set forth in the paper and of the number of heat calories these foods produce when burned, the conclusion is drawn that the oaten products have the highest nutritive value. The much advertised prepared breakfast foods have only a very slight advantage over the ordinary wheaten farinas. Experiments were made to determine the digestibility of these different foods by ascertaining the quantity of protein, fat, and carbohydrates in the food eaten and in the fæces, the differences being regarded as the amount digested. Healthy young men were taken as subjects and each experiment extended over a period of four days. According to these results the wheat germ is more fully digested and absorbed than any of the other foods. The protein of all the foods examined is less completely assimilated than the other constituents. This is particularly true in the case of Force. It is also worthy of note that the carbohydrates of Orange Meat, Force, and Norka are not so fully assimilated as those of the other foods. The results, as a whole, indicate that the expensive prepared breakfast foods are not more completely digested and assimilated than the wheaten farinas and rolled oats or even than the old forms of granulated oatmeal. Calculations were then made as to the food value of the digestible matter obtained from a given money value of each of the foods examined. It was found that cornmeal is the most economical of these foods, the oatmeals take second place, and the wheat germ occupies the third place. Oatmeal and wheaten farina in packages are twice as expensive as in bulk. The pre-digested foods are very much more expensive; thus, Force costs more than four times as much as granulated oats. Experiments were made to determine the influence of cooking on the solubility of these various foods. Rolled oats and wheaten farina were cooked for different lengths of time, when it was found that the wheatmeals are more readily rendered soluble by heat than the oatmeals. Thus, after 20 minutes' boiling the aqueous extract of wheaten farinas contained 27·4 per cent. of soluble matter, while the extract of the oatmeals contained only 14·95 per cent. Rolled oats and wheaten farina were then boiled for different lengths of time, from 20 minutes to eight hours, and the products were eaten by different subjects in order to determine the digestibility of the foods so treated. The results showed that the length of time during which the food is cooked does not very materially influence the percentage amount assimilated. It is possible that less energy may have been expended in digesting the foods that were cooked for the longer times, but no figures could be procured on this point. From all the data presented it is evident that cornmeal, rolled oats, and the farinas, especially if bought in bulk, are the most economical breakfast foods. It is, however, true that these foods do not agree with everyone and that the pre-digested foods may be useful for those people who have difficulty in digesting starch. But the intelligent housewife who needs to consider economy will do well to continue to use the old forms of breakfast foods, except in individual cases in which difficulty is found in digesting them.

METROPOLITAN FEMALE SANITARY INSPECTORS.

A RECENT return shows that of 28 metropolitan borough councils 22 now employ women sanitary inspectors or health visitors. Those which are not yet included in this list are Stoke Newington (which is a residential district), Bermondsey, Deptford, Greenwich, Shoreditch, and Stepney. The last two names are somewhat surprising as they form a considerable area of "the workshop of London." The Stepney borough council has just declined to appoint a lady sanitary inspector, as it had been petitioned to do by the Stepney Visitors' Association. Islington and Southwark have had such officers on their staffs for more than ten years and in many cases the strength of this element has been increased, in several cases more than once, so that 14 borough councils now employ more than one woman in this work. Battersea and Hammersmith have a health visitor only, the whole of whose salary they find; in the case of sanitary inspectors the London County Council bears half the expense. The salary of these officers varies from £100 to £185 per annum. The chief duties allotted to the office are the inspection of workshops where female labour is wholly or partially employed, the inspection of the homes of out-workers, especially relative to inquiries as to notifiable and non-notifiable infectious diseases, the inspection of small laundries where mechanical power is not used, the inspection of rooms alleged to be verminous, of the kitchens of eating-houses and restaurants, and also of underground public sanitary conveniences. Most of these women have also more or less defined duties appertaining to health visiting, notably with reference to the reduction of infant mortality, to the instruction of mothers of families in health principles, and to the inspection of homes in which non-notifiable diseases have occurred. It was reported that in Stepney there are 191 workshops where female labour only is employed 1732 workshops where men and women work, and 3240 places where home-work was performed during the year 1906. In addition to the above official staff there are several voluntary associations which assist in health visiting, working more or less under the supervision of the local medical officer of health.

OPERATIVE TREATMENT OF CONSTIPATION.

Eleven patients illustrating the results of the operative treatment of chronic constipation were shown on April 28th at Guy's Hospital. The occasion attracted many medical men. The patients were closely questioned and carefully examined, especial interest being shown in regard to the diet taken by them which in all cases was found to be the ordinary daily food of the class of life of the patient. Mr. W. Arbuthnot Lane's reasons for short-circuiting the intestine and removing the cæcum and large bowel in these 11 cases, consisting of ten women and one man, were the sufferings of the patients from continued loss of flesh and pain resulting in total inability to work, partly due to intestinal stasis and partly due to toxic influences. In some instances the operation had been performed three years ago and in all marked improvement in health and strength was strikingly exhibited, the condition of rapidly progressive degeneration being replaced by one of physical capacity and the general appearances of health.

LOATHSOME BED STUFFING.

We make no apology for returning to this subject, as in our opinion the attitude of the Government in regard to it is very unsatisfactory, while a distinct menace to the public health is being allowed to exist with no organised attempt whatever to suppress the evil. We have received from many quarters complete endorsement of the remarks which we have made from time to time and we have abundant reason for believing that the information supplied to us is absolutely correct. The latest communication is convincing and contains singularly unwholesome facts. "The awful filth that finds its way into beds and mattresses is," says our correspondent, "appalling; rags of the most filthy kind and old carpets stinking with dirt are torn up by a machine known as 'the devil.'" After the heavy grit is shaken out the so-called wool is sent to the bedding manufacturer to be put into beds and mattresses and in many instances these are labelled and sold as "sanitary bedding." There cannot, of course, be the least objection to the use of such material for this purpose provided that it is thoroughly washed and sterilised. We understand, however, that this desirable process would add to the cost by about 2*s.* for each bed and rather than pay this extra amount for a sanitary and clean mattress a stupid section of the public would sooner run the risk of having an offensive bed to lie upon if not one which may very possibly reward their pigheadedness with disease. And manufacturers sell these mattresses realising full well the penalties which the buyer is likely to incur and yet they are powerless to stop it because if they insisted upon an extra charge of 2*s.* for a cleaned mattress their business and custom would be threatened with extinction. "20 years ago," writes our correspondent, "I made no flock but what was washed and sterilised, but to-day, I am sorry to admit, I am compelled to do as others do and make the filthy stuff to compete and hold my own, *for* there are many manufacturers who have no washing plant, and probably 80 per cent. of all beds and mattresses are made from the rags torn up and used as filling in their dirty state." This evil trade does not only apply to bedding, for there are reasons for believing that what is the most magnificent upholstery on the surface in the shape of velvets, sateen, and tapestry may, after all, be sheltering a loathsome stuffing. The public, or that section of it which cares for these things, would do well to regard this matter seriously, and it is easy enough to ascertain by a simple test whether the character of this material is objectionable or not. If a portion of the material be taken out of the case and placed in a basin containing some boiling water and stirred up there will be an unmistakeably offensive smell evolved if the material is unscoured and unfit for bedding, while the water will become dirty-coloured. Often, however, the stuffing is so palpably bad that such a test is quite superfluous. Surely some system of control should be established by the Government without any delay which will put an effectual end to this infamous disregard for cleanly dealing and common hygienic demand.

THE FOURTEENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

At this Congress, which is to be held in Berlin from Sept. 23rd to 29th, the exhibition will be a prominent feature. Scientific institutes, as well as State and municipal authorities, together with private firms, are taking an active part in the preparations for it, and it is hoped that the exhibition will afford a general view of the present state of hygiene from both a theoretical and practical standpoint. The methods of combating infectious diseases (especially colonial and tropical diseases), State and municipal hygiene (especially the care of infants), the providing of good drinking water, the removal of waste, and the hygiene of schools will be represented in an exhaustive and interesting manner. Considering the great importance of hygiene as regards both private and public life it has been resolved to keep open the exhibition, which is to be held in the "Reichstag," after the closing of the Congress up to the end of September. Those interested will have full opportunity to make themselves acquainted with this department of medicine, the progress in which has had a notable effect with regard to the diminution of the general mortality and the considerable advance in the average age limit during the last ten years.

THE BACTERIOLOGICAL DIAGNOSIS OF TYPHOID AND PARATYPHOID FEVER.

In a research carried out in the Hygienic Institute in Kiel Dr. R. Müller and Dr. H. Graf[1] were able to find either typhoid or paratyphoid bacilli in the clot of the specimens of blood sent for Widal's reaction in eight out of 11 examinations, a result all the more surprising since it has been generally supposed that the bacilli in the clot and serum of such a specimen are killed by the bactericidal action of the blood serum. To control these observations Dr. O. Kurpjuweit[2] examined all the specimens sent to the bacteriological laboratory in Saarbrücken from Jan. 11th to March 14th, 1906—in all 294. The method adopted was that after the serum had been pipetted off and used for the Widal test the blood clot was spread by means of a glass spatula upon a litmus-lactose agar plate, as used in the v. Drigalski-Conradi method. In a certain number of the cases the blood-stained serum was also spread out upon plates in a similar manner. In 12 cases a positive result was obtained from the blood clot, a growth of typhoid or paratyphoid bacilli appearing, while in the case of the serum the results were uniformly negative. Of the remaining 282 trials, 194 proved to be from cases *not typhoid* fever. The number of colonies obtained from the small quantity of clot used (from 0·1 to 0·15 cubic centimetre) was usually small, varying between one and 21, but in one case of paratyphoid fever there were about 1600. Dr. Kurpjuweit concludes that although the culture of the clot does not give such generally good results as those of cultures made from the blood itself, the urine, or the fæces, yet in some cases it may show the presence of bacilli when they are overlooked by the other methods, so that in virtue of its simplicity it is worth while doing in every case where a Widal reaction is tried. He further quotes some observations made since his own were completed by Dr. Fornet,[3] who by means of an improved technique succeeded in growing the organisms 14 times out of 19 examinations of the blood clots in the capillary tubes sent for the Widal reaction. The method which he adopted was to put about five cubic centimetres of fresh ox bile in test-tubes, which were then sterilised in a steam oven or by boiling in water. The clot in the Widal tube was placed in one of these tubes after it had cooled and it was closed with cotton-wool in the usual way and put in the incubator for the night. On the next day a large Endo's or v. Drigalski-Conradi plate was inoculated from the bile tube. The effect of the bile is explained by the suggestion that it dissolves the blood and sets free the organism. By this means it is possible to establish the diagnosis of typhoid or paratyphoid fever in the first few days of the disease, at a time when Widal's reaction is likely to be slight or negative and when the bacilli are usually not able to be grown from the fæces. The method is simple of execution and, judged by the reports given of it, seems likely to be a valuable addition to our means of diagnosis.

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[1] Münchener Medicinische Wochenschrift, 1906, No. 2.

[2] Arbeiten aus dem Kaiserlichen Gesundheitsamte, Band xxv., Heft 1, 1907.

UNCINARIASIS IN PORTO RICO.

IN the *Boston Medical and Surgical Journal* of April 4th Dr. B. K. Ashford and Dr. W. W. King have published an important paper on uncinariasis in Porto Rico. The parasite of the disease, the necator Americanus or uncinaria Americana, belongs to the same family as the ankylostoma duodenale and affects man in a similar manner. Uncinariasis in Porto Rico is not only interesting from the medical standpoint but in consequence of its frequency furnishes an all-important social and economic problem. 70 per cent. of the 750,000 inhabitants suffer, in greater or less degree, from the infection and from 5000 to 7000 annually succumb to it. As in ankylostomiasis, anæmia results; the hæmoglobin amounts on an average to from 40 to 45 per cent. The disease has been misunderstood and attributed to various causes, such as malaria, starvation, climatic influences, and so on. The manner in which the worm invades the human body is now definitely known and constitutes one of the marvels of pathology. As has been shown recently by Looss in the case of ankylostoma duodenale, under proper conditions of temperature and moisture larvæ develop from ova in the fæces of the host. They penetrate the bare skin of the feet of the natives, enter the veins, are carried in the circulation to the right heart and pulmonary artery, to be arrested in the small vessels of the lungs. They break through into the alveoli of the lung, ascend the bronchial tubes and trachea, descend the œsophagus to the stomach, and pass into the upper part of the jejunum, their favourite feeding ground. Dr. Ashford and Dr. King have not only experimentally confirmed this mode of infection but are able to state that it is the only way in which the worm enters the body. The theory of inhalation of infected dust does not merit consideration, as drying kills the larvæ. The disease is always acquired from contact of the bare skin with mud or muddy water and is termed by the natives "mazamorra" (ground-itch). From some minutes to half an hour after standing with bare feet in infected places itching begins. In a day the part becomes covered with papules, which later become vesicles. The following experiment was performed by Dr. Ashford and Dr. King. Fæces laden with the ova of uncinariæ were mixed with earth and water in a dish and placed in the shade. On the fourth day larvæ were very plentiful; the majority appeared to be dead, while some moved slowly. The dish was then left slightly tilted overnight and on the fifth day the larvæ which had collected at the lowest level apparently were dead, while those in the damp mud were very active. On the eighth day the hair was clipped from the back of a guinea-pig four days old and a poultice made with the mud, in which the larvæ were still active, was applied for half an hour. Then the spot was cleansed and rubbed with absolute alcohol. Five minutes after application of the mud the animal showed a desire to scratch. The same application was made on the two following days. On the third day of the experiment the animal seemed well and no dermatitis had developed, but it died in the night. At the necropsy one lung was found solid from effusion of blood and the other was filled with dark red spots. One of these spots was excised and examined under the microscope. Ten encapsuled very active larvæ were seen. They seemed to be so strong as to overcome all obstacles, breaking up the lung wherever it obstructed them. The intestines were normal. An important observation made was that in uncinariasis not the slightest trace of blood can, as a rule, be detected in the fæces. The anæmia cannot therefore be explained by hæmorrhage. As Looss has shown for the ankylostoma duodenale, the lesion produced is practically confined to the mucosa of the intestine. The worm draws this into its mouth, denuding it of epithelium which seems to be its food. Albumin and casts, hyaline, finely granular, and fatty, are commonly found in the urine. The prophylaxis is very simple—the wearing of boots. Treatment consists in administration of beta-naphthol. But in consequence of the condition of the kidneys it should be given carefully.

FESTIVAL DINNER OF THE MIDDLESEX HOSPITAL.

WE have received a letter from the chairman and treasurers of the Middlesex Hospital calling attention to the festival dinner that is to be held under the auspices of H.R.H. the Duke of Connaught at the Prince's Restaurant on May 10th next. It had been intended to hold this gathering during last year but unavoidable circumstances led to its postponement. There is no argument needed in pressing the urgent claims of any large London hospital on the notice of our readers and indirectly through them on that of the larger public whom they may be able to influence. The stability of the Middlesex Hospital finance is no greater than that of other general hospitals, only 15 per cent. of the £40,000 annually necessary for its upkeep being derived from invested property and 35 per cent. from the efforts of a limited number of charitable persons and the various hospital funds. The remaining £20,000 depends on bequests and intermittent charitable contributions from the public. The hospital has a record of 160 years' service to the poor and occupies a central position which, although it borders on a district of great commercial and personal wealth, yet is actually surrounded by a network of poor and densely populated streets; on the larger charity of the former area the latter has undoubtedly a strong claim; the necessity of the hospital in its present site is unassailable as is proved by the 4000 in-patients who yearly receive its benefits. One special feature that strengthens its claim on the sympathies of a very large number of people is the special provision of accommodation made under a bequest in 1792 for the treatment of necessitous patients suffering from cancer "during the remainder of their lives." We need hardly remind our readers that to the cancer wing is attached a research department in the laboratories of which much systematic and useful work has been, and is being, done to throw light on the dark mysteries of this terrible malady. On all grounds, then, we support the special appeal that is being made on the occasion of this festival dinner; those who wish to express their sympathy with its objects in a practical form are asked to send their subscriptions and donations to Messrs. Coutts and Co., 440, Strand; Messrs. Parr's Bank, 1, Cavendish-square, W.; or to the secretary at the Middlesex Hospital, Mortimer-street, W.

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[3] Münchener Medicinische Wochenschrift, 1906, No. 29.

EPIDEMIC CEREBRO-SPINAL FEVER.

GLASGOW and Belfast still continue to be the chief centres of the epidemic of cerebro-spinal fever. In the former city the weekly report issued on April 26th showed that there were at that time 114 patients under treatment. In Scotland during the week ended April 27th there were 26 deaths from the disease registered in Glasgow, 8 in Edinburgh, 2 in Leith, and 1 in Dundee. In Belfast during the week ended April 25th there were 36 fresh cases notified and 27 deaths, making since the commencement of the epidemic in Belfast a total of 337 cases with 227 deaths.

GERMAN CONGRESS FOR THE PREVENTION OF VENEREAL DISEASES.

THE Third Congress of the German Society for the Prevention of Venereal Diseases will be held in Mannheim on May 24th and 25th. At 8 P.M. on May 23rd there will be a reception (*Begrüssungsabend*) either in the exhibition or in the Rosengarten. On the 24th, at 8 P.M., the members will dine in the Park Hotel. Applications for dinner tickets (costing 5 marks) should be made as soon as possible either to Dr. Heinrich Loeb, Mannheim P. 7.23, or to the offices of the society, 105A, Potsdamerstrasse, Berlin W. 35. The meetings of the Congress on May 24th and 25th will be held in the Rosengarten from 9.30 A.M. to 12.30 P.M. and from 3 to 5 P.M. The official discussions will deal chiefly with the explanation of sexual questions to children and young persons, and on this subject there will be eight speakers, of whom the first three will be Dr. A. Blaschko, Professor Fr. W. Foerster, and Frau Krukenberg; Herr Köster will discuss literature for the young and Professor Eulenburg and Frau Adams-Lehmann will introduce the subject of "Sexuelle Diätetik." The meetings of the Congress will be public. Anyone may attend and take part in the discussions. Members of the Congress pay a subscription of 10 marks and are entitled to take part in the voting and to receive the Transactions.

THE PREPARATION OF INFANT'S AND INVALID MILK FROM COW'S MILK.

A SOMEWHAT novel method of preparing from cow's milk a modified milk which approximates to the composition of human milk has recently been proposed by Dr. Szekely, chemist to the Hungarian Government. The process is based on the discovery that carbonic acid gas under pressure separates not only the casein but also part, if not all, of the calcium phosphate of cow's milk. The fresh milk under treatment is first heated to 58–60° C. and then poured into a closed cylinder connected in its turn with a cylinder containing carbonic acid gas. The gas is forced into the cylinder containing the milk until the pressure is from 25 to 30 atmospheres. After a time the separation of the casein is said to be complete, and it separates as a spongy mass, a clear pure whey remaining. With the casein is also a large proportion of the salts and more particularly phosphate of calcium. The whey shows the following average composition: Protein, 0·60 per cent.; milk sugar, 4·50 per cent.; and salts, 0·55 per cent. This accords with the composition of cow's milk the casein of which has been removed by Pukkal's clay filter. An important statement in regard to this whey is that it retains the active enzymes of raw untreated milk. It is further claimed that carbonic acid under pressure destroys tubercle bacilli. Pasteurised cream (65°–70° C.) to which the requisite amount of sugar has been added is then put in with the whey and the infant's milk so obtained is bottled ready for use. To 50 parts of whey 49 parts of pasteurised cream are added containing about 9 per cent. of fat and 1 part of milk sugar. The composition of the milk is stated to be as follows: Fat, 4·50 per cent.; casein, 1·50 per cent.; albumin, 0·50 per cent.; milk sugar, 5·45 per cent.; soluble salts, 0·55 per cent.; and insoluble salts, 0·08 per cent.

THE *Department of Public Health of Queensland* in a bulletin dated March 23rd states that a case of bubonic plague, No. 27 in the series, the patient being a male, aged 48 years, was reported from the General Hospital, Brisbane, on March 17th. A fatal case of plague reported after death occurred at Townsville on March 17th. The patient was a man, aged 33 years. There are no further developments at Port Douglas. As regards the Mauritius a telegram from the Governor, received at the Colonial Office on April 26th, states that for the week ending April 25th there was 1 case of plague and 1 death from the disease. A telegram from the Acting Governor of Hong-Kong, received at the Colonial Office on April 29th, states that for the week ending April 27th there was 1 case of plague and 1 death from the disease.

THE death is announced of Professor Albert Ritter von Mosetig-Moorhof, extraordinary professor of surgery in the University of Vienna, the eminent Austrian surgeon. The telegrams which have been published, however, show a marked discrepancy as to the details surrounding the sad event. Professor von Mosetig-Moorhof was well known for his introduction of the use of iodoform for packing cavities in bone.

WE are asked to remind candidates for the Radcliffe prize in the University of Oxford that they should send in their memoirs to the Registrar's office on or before June 1st next. No memoir for which any University prize has already been awarded will be admitted to competition for the Radcliffe prize.

Mr. William Wright, *M.B.*, *D.Sc.*, *F.R.C.S.*, will deliver three lectures on the Prehistoric and Early Historic Inhabitants of England in the theatre of the Royal College of Surgeons of England on May 6th, May 8th, and May 10th, at 5 o'clock P.M.

THE death is announced of Dr. Edward Markham Skerritt, senior physician to the Bristol General Hospital. We hope to give particulars of his career in a future issue.

"SOCIALISM AND THE MEDICAL PROFESSION."

AT a meeting of the Fabian Society held at Essex Hall, Strand, London, on April 26th, Mr. F. Lawson Dodd read a paper on Socialism and the Medical Profession. He commenced by saying that before the democracy would be fit to undertake its widest possibilities education would have to be organised in its service, and with the organisation of education should come the organisation of the medical profession. Both inside and outside that profession there was at present dissatisfaction with the conditions of medical service. The want of system was, however, but a temporary phase in the history of the profession which showed three stages of progress. Having its origin in the mysterious it evolved by various steps to the ecclesiastical period, when medicine was in the hands of the Church in the Middle Ages. This was followed by the commercial or guild system, when the healing art was practised by smiths and barbers. From this point development had taken place, until there were signs that a third stage, the stage of a State medical service, was approaching. The immense advance of science and the work of Wakley in founding THE LANCET and of Sir John Simon were the prominent factors in the movement towards State interference and control of medical service. The first step was the Act of 1858 which by a system of registration enabled the public to distinguish between qualified and unqualified practitioners, and which created the General Medical Council, the functions of which were to maintain that register and to control medical education. This Act laid down the principle that the medical service of the country exists for the public interest and had called into existence the germ of a State medical service which he hoped in the future would be fully developed. From the medical profession itself, he said, there was a widespread demand for State interference, as was shown by the Bills now before Parliament, one of which aimed at the creation of a State medical examination. Few people realised to what an extent the medical profession was passing into the hands of the State. The Navy and Army Medical Services, the Colonial Service, the Public Health and Poor-law Services, the Prison and Asylum Services were all of comparatively recent origin. Sometimes some of these officers were also in private practice, but this was viewed with a growing distrust which would end in favour of "the whole-time man." These services in many ways compared favourably with other branches of the medical profession and their popularity was shown by the keen competition for certain of the posts. The medical man on entering private practice found himself, after spending many years in study, in a new world where he had to compete for patients; his prestige often depended upon his manners and social position and he was thrown upon the mercy of the public whose diseases he was called upon to treat. Whatever competition might do for trade it had nothing but a bad influence on professional work. In the matter of overwork the medical profession suffered more than any other profession as shown by the high mortality rate among medical men. There was just as good a case for legal interference in regard to overwork in the medical profession as in any other calling. Overwork and excessive night-work might lead to disaster just as it did in the case of the engine-driver or the signalman. Then there was a constant tendency on the part of the public to impose on the medical man and to seek from him gratuitous work. The organised workmen's societies led to the sweating of medical men. All hospital appointments, unless under State control, were practically unpaid, and certificates of various kinds were demanded by the public and by public bodies from the officers without payment. With regard to the question of hospital abuse some hospitals were trying to carry out a system of selection, but if a barrier of appearance was put up the poor clerk was excluded and the workman who was better off was admitted. In his view the suggestion to cut down hospital attendance displayed ignorance of human nature and a total incapacity to realise the grievances of the general public. During the 30 years in which the agitation against hospital abuse had been in progress the evil had been growing. Any solution of the problem to be satisfactory must take into consideration the case of the public as well as of the medical profession. The evils of the individualistic system of medical treatment resulted in most serious hardships to the middle classes, and an organised service of State medicine was, he considered, the only solution of the medical problem. But this ideal could only be brought about by public education. The important thing was to realise the fact that medical service was already in a state of transition, so that changes might now be effected along the line of least resistance. One of the first things that should be done was to secure the fixity of tenure of medical officers of health, who should have adequate assistance. Preventive medicine was taking a more and more important place. The public medical service, which would eventually have to be organised, should have connecting links between the ambulance bearer at one end and the consultant physician or surgeon at the other. It was also necessary that every man should be in some way connected with a hospital throughout his career so that the opportunities for scientific study might be constant. Hospitals would have to be placed on the rates and some form of insurance against sickness instituted. Members of the staff of a general hospital would then be paid just as the medical officers of the hospitals of the Metropolitan Asylums Board are paid at the present time. Another step would be the creation of a Ministry of Public Health. The cost of such a system should fall in part on the exchequer and in part on local taxation. A small tax in time of health would be more welcome, he was certain, to the public than the payment of a heavy doctor's bill at a time when it could be ill afforded.

A discussion followed in which Mr. L. HADEN GUEST, Mr. ADOLPHE SMITH, Mr. GRANVILLE BARKER, and others joined. It was suggested that the cost of such a system would be enormous, and that the condition of the housing of the population was the chief obstacle to the improvement of the public health of the country.

THE ADULTERATION OF WINES, SPIRITS, AND BEER.

AN interesting conference was held at the Institute of Hygiene, 34, Devonshire-street, London, W., on April 29th, which was largely attended by leading members of the medical profession, analytical chemists, lawyers, importers, distillers, brewers, merchants, and others. The subject chosen for discussion was, "The Adulteration of Wines, Spirits, and Beer, and its Effect on Health."

In opening the proceedings the Chairman, Sir WILLIAM BENNETT, K.C.V.O., said that opinions might differ as to the desirability of the use of alcoholic beverages, nevertheless, if these were used it was essential not only that they should be free from adulteration but that they should also be what they were represented to be. The conversion of the nation at large to total abstinence could, even now, only be regarded, he thought, as a remote contingency, and in the meantime the question of the purity of the various alcoholic beverages in common use amongst a large section of the people must be a matter of grave concern. There was a strong impression abroad that adulteration, substitution, and misrepresentation in connexion with the sale of wines, spirits, beer, and medicated beverages containing alcohol were rife, and if this impression was correct it could not be denied that such a condition of affairs was antagonistic to the welfare of the community and should no longer be tolerated. It also appeared that the means at present available for the prevention of the practices mentioned were virtually useless and in these circumstances the Institute of Hygiene—the primary object of which was the furthering of methods to insure the purity of all articles of consumption—thought it right to convene the present conference in order to obtain the views of those qualified to form a responsible judgment upon the matter, with the object, if after consideration it was thought desirable, of impressing upon the proper authorities the urgent necessity for providing adequate means for the prevention of those abuses which were commonly believed to exist.

Dr. F. J. SMITH proposed:—

> That the adulteration, substitution, and misrepresentation of wines, spirits, and beer affects the health and strength of the people, especially in connexion with its tendency to induce a craving for drink, and that the Local Government Board, licensing and other authorities be called upon to take such steps as are necessary to prohibit the sale of liquors which are not what they profess to be and the medical profession be appealed to to exert their influence to prevent their consumption.

He said that the medical profession saw so much of the evil effects of drink that they had the best claim to protest against any misrepresentation in connexion with the drink of the people. He referred to the manifesto that appeared in THE LANCET and said that though he had not signed it he could conscientiously have done so. He also condemned basis wines and so-called medicated wines, as they did much harm by the misplaced confidence which they received.

Dr. W. EWART, in seconding the motion, said that though inclined to limit the use of alcohol as far as possible, yet he gave his whole-hearted support to the motion and hoped it would lead to State action.

Mr. BRAMALL said that as a solicitor he had had much experience of cases dealing with misrepresentation and he fully approved of the motion and referred to the serious burden which now rested on those who had to prosecute.

The motion was carried.

Mr. CHARLES HAIG said that he had had 40 years' experience of whisky and he did not feel disposed to put much value o [illegible] ion of either medical men or analysts. He thought, however, that medicated wines did much injury, as they were made from the cheapest stuff and sold at enormous profit. He was also in favour of levying a tax on basis wines and wines made in this country and concluded by moving the following proposition :—

> That it is in the best interests of importers, producers, and purveyors of wines, spirits, and beer, and to their eventual profit, that every means should be taken to raise the standard of quality and discourage adulteration, substitution, and misrepresentation.

Mr. W. GILES seconded the motion and hoped that the public would be educated to appreciate good quality and to pay for it. He hoped British wines would be made under license.

Mr. W. PHEYSEY thought that the law was sufficient to meet adulteration if it were put in force, yet the production of basis wines required control and the sale of medicated wines was a great evil as they were sold as mixtures and tonics and often prescribed by medical men.

The motion was put to the meeting and carried unanimously.

Mr. S. ARCHIBALD VASEY, F.I.C., F.C.S., moved :—

> That it should be required by law that every bottle or vessel containing wines, spirits, or beer, intended for sale and consumption, should bear upon it a clear and accurate description of the contents and a statement of the source of origin.

He did not think adulteration was, on the whole, of a very serious kind—even basis wines could not be called unwholesome and there was no objection to them if they were honestly declared as British productions. He thought beer was never better than it was to-day but though substitution might not poison, it might cheat, and what was wanted was an honest label. He appealed to the Government authorities to deal decisively and without delay with the question of definitions.

Dr. T. DUTTON, in seconding the motion, said that the medical evidence went far to show that there was much merit in good sound wine and beer but substitution and adulteration were to be condemned as most injurious to health.

Mr. L. CAMPBELL JOHNSON thought the motion would be unfair to the British maker as it would not affect foreign producers.

Dr. J. C. THRESH proposed the following amendment :—

> That the Local Government Board should appoint a Court of Reference, including commercial and scientific experts, to define standards of wines, spirits, beer, cider, and similar fermented beverages.

This amendment was seconded by Mr. CAMPBELL JOHNSON and supported by Mr. CHAPMAN, F.I.C. It was put to the meeting and carried unanimously.

The motion was then put to the meeting but was not carried, the opinion being generally expressed that it would be very difficult to put into operation.

Mr. BRAMALL moved :—

> That two scientific gentlemen, members of this society, be appointed to join the deputation to the President of the Local Government Board to urge upon him to appoint a commission to fix a standard for Scotch and Irish whisky, in order to represent the importance of the matter in the interests of the public health.

This was seconded, put to the meeting, and carried.

Dr. THRESH proposed :—

> That the resolutions that have been passed at this Conference be submitted for the consideration of the Prime Minister, the Home Secretary, and the President of the Local Government Board.

This, too, after having been seconded and put to the meeting, was carried unanimously.

The Conference terminated by a cordial vote of thanks to Sir William Bennett for presiding.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on April 25th, Sir R. Douglas Powell, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the requisite examination were admitted as Members of the College :—Julius Meyer Bernstein, M.B. Lond., L.R.C.P. Lond.; Wilfrid Edgecombe, M.D. Lond., L.R.C.P. Lond.; Daniel Cæsar O'Connell Finigan, M.D. Berlin, L.R.C.P. Lond.; Archibald Montague Henry Gray, M.D. Lond., L.R.C.P. Lond.; Thomas Lewis, M.B. Lond., L.R.C.P. Lond.; Newman Neild, M.B. Vict., L.R.C.P. Lond.; and Clifford Sidney White, M.D. Lond., L.R.C.P. Lond.

Licences to practise physic were granted to 114 gentlemen who had passed the necessary examinations.

The following Members, nominated by the Council, were elected as Fellows of the College :—Daniel Colquhoun, M.D. Lond.; James Barry Ball, M.D. Lond.; Arthur Shadwell, M.D. Oxon.; Arthur Thomas Wilkinson, M.D. Lond.; Edward Mansfield Brockbank, M.D. Vict.; William James Fenton, M.D. Cantab.; George Edward Rennie, M.D. Lond.; Edwin Bramwell, M.B. Edin.; Andrew Duncan, M.D. Lond.; Robert Jones, M.D. Lond.; Thomas McCrae, M.D. Toronto; and Herbert Stanley French, M.D. Oxon.

On the proposition of the PRESIDENT a letter of congratulation was sent from the College to Lord Lister on attaining the eightieth anniversary of his birthday, referring to the immense benefits which had been conferred on mankind through his researches.

The following communications were received :—1. From the secretary of the Royal College of Surgeons of England reporting proceedings of its Council on April 11th. 2. From the Geological Society of London, inviting the College to send a representative to take part in the centenary commemoration of the society's foundation on Sept. 26th to 28th next. The invitation was accepted and it was left to the President to nominate a representative.

A report was received from the Censors' board in the case of Arthur Rayner, L.R.C.P. On Dec. 12th, 1906, he was convicted at the Central Criminal Court of causing the death of a married woman by feloniously procuring abortion and was sentenced to three years' penal servitude. Having investigated the case the President and Censors resolved to report the case to the College, and in view of the serious character of his offence they unanimously recommended that the Licence of Arthur Rayner be revoked and altogether withdrawn and his name expunged from the list of Licentiates. The College adopted the recommendation.

Dr. Frederick Taylor was elected a representative of the College on the Senate of the University of London in place of Dr. W. H. Allchin whose term of office will expire on May 14th and who did not desire re-election.

The quarterly report, dated April 18th, of the College finance committee was received and adopted.

A report, dated March 18th, of the committee of management was received and adopted. The substance of the report was as follows :—

> 1. The committee recommend that for the future four examiners in anatomy and four examiners in physiology be appointed annually and that each College should appoint two examiners in each subject.
>
> 2. In reference to the present regulation requiring candidates to pass in chemistry and physics together, Regulation VIII. will now stand as follows: "A candidate must present himself for examination in Parts I. and II. together (unless he claims exemption from one of them under the conditions of paragraph XII.) until he has reached the required standard to pass in both, or in one of these parts, but he will not be allowed to pass in one part unless he obtains at the same time half the number of marks required to pass in the other part. A candidate may take Parts III. and IV. separately, or he may present himself for the whole examination at one time."
>
> 3. In reference to the commencement of the study of anatomy the committee recommended that Clause XIII. be altered as follows: "The study of anatomy and physiology will not be recognised until the candidate has passed in two of the first three parts of the First Examination—viz., chemistry, physics, and biology."

A report, dated April 15th, of the committee of management on the subject of the teaching of midwifery was received and adopted. The committee recommended that the regulations of the Examining Board in England should be altered so as to provide :—

> 1. That every student shall himself conduct 20 labours. 2. That before conducting such 20 labours he be required: (a) to have held the office of medical clinical clerk and of surgical dresser at a recognised hospital during six months each; and (b) to have attended a course of practical instruction in midwifery. 3. That the certificate of having conducted the required number of cases be signed by a member of the staff of a lying-in hospital or of the maternity charity of a general hospital, or by the dean of the medical school attached to the general hospital. 4. That every student be required to discharge the duties of clinical clerk in the gynæcological wards or out-patient department of a recognised hospital. 5. That every student be required to complete the curriculum of professional study before presenting himself for examination in midwifery and gynæcology.

A further report, dated April 15th, from the same committee was received and the following portions were adopted :—

> 1. A report from Dr. Theodore Dyke Acland on the examinations of the Egyptian Medical School, on the professional education at that school, and on the hospital accommodation at Cairo. The thanks of the College were accorded to Dr. Acland for his valuable services as assessor.
>
> 2. The Council of the Royal College of Surgeons having adopted the report of this committee, dated March 18th, with the exception of the clause relating to the distribution of the examinerships in anatomy

and physiology between the Royal Colleges, this clause was again taken into consideration by the committee. Under former conditions the Royal College of Surgeons appointed four examiners in anatomy, whilst the Royal College of Physicians appointed two of such examiners and three examiners in physiology were appointed by each College. The committee, on further consideration, felt that the reduction in the number of examiners would be more equitably brought about by each College giving up an examinership in each of the two subjects; the committee therefore proposed that three examiners in anatomy be appointed by the Royal College of Surgeons and one examiner by the Royal College of Physicians, and that each College should appoint two examiners in physiology.

After some formal matters had been transacted the PRESIDENT dissolved the Comitia.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 2nd, 1829.

ON THE PROPHYLACTIC POWERS OF BELLADONNA AGAINST SCARLET FEVER.

BY C. W. HUFELAND.

THE author has been led, both by his own experience and that of a great many other practitioners, to form such a favourable opinion with respect to the powers of this medicine, that he is convinced that in epidemics of scarlet fever it ought universally to be resorted to, as the best means of preventing the disease altogether, or mitigating its violence. The following are his general conclusions:—

1. The proper use of belladonna has, in most cases, prevented infection, even in those instances where, by the continual intercourse with patients labouring under scarlet fever, the predisposition towards it was greatly increased.

2. Numerous observations have shown, that by the general use of belladonna, epidemics of scarlet fever have actually been arrested.

3. In those few instances where the use of belladonna was insufficient to prevent infection, the disease has invariably been slight.

4. There are exceptions to the above three points, but their number is extremely small.

It seems that in some epidemics belladonna has no protective powers at all; the individual disposition, the method of using the remedy, and the quality of it will, of course, have considerable influence on the result of the experiment. Three grains of the extract, which must be recently prepared, are dissolved in three ounces of diluted alcohol; of this solution the individual takes, twice a-day, as many drops as he is years old; its use must be continued as long as contagion is possible. The dose, it appears, is so very small, that even if it should fail in its effect, it will, at all events, not be injurious.

In consequence of Hufeland's communication on the above subject, the Prussian government has issued an official decree, ordering the general use of belladonna, as a prophylactic in all instances when scarlet fever prevails as an epidemic.—*Liter. Ann. der ges. Heilk.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8663 births and 4910 deaths were registered during the week ending April 27th. The annual rate of mortality, which had been equal to 17·9, 16·9, and 16·8 per 1000 in the three preceding weeks, further declined to 16·0 in the week under notice. During the first four weeks of the current quarter the death-rate in these towns averaged 16·9 per 1000, the rate during the same period in London being only 16·5. The lowest rates in the 76 towns last week were 5·8 in Hornsey, 6·9 in King's Norton, 7·6 in Barrow-in-Furness, and 8·0 in York; the rates in the other towns ranged upwards to 23·0 in Wigan and in Swansea, 23·2 in Stockport, 25·6 in Middlesbrough, and 27·3 in Birkenhead. The 4910 deaths in the 76 towns showed a further decline of 239 from the numbers returned in recent weeks, and included 532 which were referred to the principal epidemic diseases, against 569, 544, and 506 in the three previous weeks; of these, 226 resulted from measles, 167 from whooping-cough, 47 from diphtheria, 36 from diarrhœa, 34 from scarlet fever, and 22 from "fever" (principally enteric), but not one from small-pox. No death from any of these epidemic diseases was registered last week in Southampton, Swansea, Huddersfield, Rochdale, York, or in nine other smaller towns; the annual rates from these diseases, however, ranged upwards in the other towns to 4·4 in Birkenhead, 4·5 in Sheffield, 4·6 in Bolton, and 5·3 in Portsmouth. The fatal cases of measles in the 76 towns, which had been 251, 228, and 216 in the three previous weeks, rose again to 226 last week; the highest annual rates therefrom were 3·0 in West Bromwich, 3·1 in Birkenhead, 3·2 in Nottingham, and 4·0 in Sheffield and in Portsmouth. Whooping-cough also showed increased fatality and was proportionally most fatal in Brighton, Tottenham, Stockton, and Salford. The deaths referred to diphtheria, diarrhœa, and scarlet fever were also more numerous than in the previous week. Scarlet fever was most fatal in Wigan, and diarrhœa in Rhondda and Tynemouth. Of the 22 deaths referred to "fever," three occurred in Wigan, equal to an annual rate of 1·8 per 1000. One case of small-pox was under treatment in the Metropolitan Asylums Hospitals at the end of last week, being the first case admitted to these hospitals since the end of June last. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2637 and 2628 in the two previous weeks, rose again to 2665 at the end of the week under notice; 360 new cases were admitted during the week, against 298 and 361 in the two preceding weeks. The deaths referred to pneumonia and other diseases of the respiratory organs in London, which had been 412, 355, and 326 in the three previous weeks, further declined last week to 295, and were ten below the corrected average number in the corresponding week of the five years 1902–06. The causes of 49, or 1·0 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Newcastle-on-Tyne, Salford, and in 50 other of the 76 towns; the proportion of uncertified deaths, however, again showed considerable excess in Liverpool, Birmingham, St. Helens, Warrington, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·2 and 20·0 per 1000 in the two preceding weeks, rose again to 20·6 in the week ending April 27th, and exceeded by 4·6 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 17·0 and 17·6 in Aberdeen and Dundee to 24·2 in Glasgow and 22·5 in Leith and Perth. The 714 deaths in the eight towns were 19 above the number in the previous week, and included 121 which were referred to the principal epidemic diseases, against numbers increasing steadily from 100 to 133 in the six preceding weeks. These 121 deaths were equal to an annual rate of 3·5 per 1000, which exceeded by 1·8 the rate from the principal epidemic diseases in the 76 English towns; they included 52 from whooping-cough, 39 from "fever," 12 from diarrhœa, 11 from measles, six from diphtheria, and one from scarlet fever, but not one from small-pox. The 52 fatal cases of whooping-cough were within two of the number in the previous week, and included 43 in Glasgow, and two each in Edinburgh, Aberdeen, Paisley, and Greenock. The 39 deaths referred to "fever" showed a further decline of three from the high numbers in the two previous week, but included 27 in Glasgow, nine in Edinburgh, two in Leith, and one in Dundee; of these deaths from "fever," 26 were certified as cerebro-spinal meningitis in Glasgow, eight in Edinburgh, two in Leith, and one in Dundee. The 11 deaths from measles showed a decline of six from the number in the previous week, and included five in Glasgow and four in Edinburgh. Of the 12 deaths attributed to diarrhœa six occurred in Glasgow and two in Perth; and of the six fatal cases of diphtheria three were returned in Glasgow and two in Greenock. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 118 and 103 in the two preceding weeks, rose again to 109 in the week under notice, but were 26 below the number in the corresponding week of last year. The causes of 22, or 3·1 per cent., of the deaths registered in the eight towns during the week were not certified or not stated; in the 76 English towns the proportion of uncertified deaths in the week under notice did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 26·6 and 27·4 per 1000 in the two preceding weeks, further rose to 33·5 in the week ending April 27th. During the first four weeks of the current quarter the death-rate in the city averaged 28·9 per 1000, the rates during the same period did not exceed 16·5 in London and 17·6 in Edinburgh. The 251 deaths of Dublin residents during the week under notice showed a further increase of 48 upon the high numbers in recent weeks, and included 29 which were referred to the principal epidemic diseases, against 19 and 18 in the two preceding weeks; of these, 15 resulted from whooping-cough, ten from measles, two from "fever," and one each from diphtheria and diarrhœa, but not one either from scarlet fever or small-pox. These 29 deaths were equal to an annual rate of 3·9 per 1000, the rate during the same week from the principal epidemic diseases being 1·7 in London and 2·4 in Edinburgh. The fatal cases of whooping-cough showed a considerable further increase upon recent weekly numbers; and those of measles corresponded with the number in the previous week. Two fatal cases of cerebro-spinal fever were also registered. The 251 deaths from all causes included 53 of children under one year of age and 71 of persons aged upwards of 60 years; each of these numbers showed a marked increase. Seven inquest cases and seven deaths from violence were registered; and 89, or 35·5 per cent., of the deaths occurred in public institutions. The causes of six, or 2·4 per cent., of the deaths in Dublin were not certified; the percentage of uncertified deaths during the week did not exceed 1·0 in London and 1·6 in Edinburgh. The 170 deaths registered in Belfast during the week under notice included 27 referred to cerebro-spinal fever or cerebro-spinal meningitis, corresponding with the number in the previous week.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Deputy Inspector-General: J. Crowley to Haslar Hospital. Fleet Surgeons: E. R. D. Fasken to the *Cressy*, and W. E. Home to the *Excellent*.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon Richard Edmund Biddulph has been placed on the retired list, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated April 28th, 1907).

ROYAL ARMY MEDICAL CORPS.

Colonel Matthew D. O'Connell is placed on retired pay (dated April 5th, 1907).

Colonel A. T. Sloggett, C.M.G., has been appointed to examine Militia and Yeomanry candidates for commissions in the Regular Army in London. Major A. E. C. Keble has been noted for appointment to Sierra Leone as Sanitary Officer.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel Charles W. Thorp having reached the prescribed limit of age ceases to belong to the Army Medical Reserve of Officers (dated April 9th, 1907).

IMPERIAL YEOMANRY.

Northumberland (Hussars): Hamilton Drummond to be Surgeon-Lieutenant (extra), under the conditions of paragraph 28, Imperial Yeomanry Regulations, 1906 (dated March 18th, 1907).

VOLUNTEER CORPS.

Royal Garrison Artillery: 4th West Riding of Yorkshire: Surgeon-Lieutenant A. M. Connell to be Surgeon-Captain (dated March 19th, 1907). 1st Sussex: Thomas Sanders Worboys to be Surgeon-Lieutenant (dated March 1st, 1907).

Rifle: 2nd Volunteer Battalion the Prince of Wales's Volunteers (South Lancashire Regiment): Douglas Catterall Leyland Orton to be Surgeon-Lieutenant (dated March 15th, 1907).

ARMY MEDICAL SERVICE.

An examination of candidates for not less than 30 commissions in the Royal Army Medical Corps will be held on July 25th next and following days. Application to compete should be made to the Secretary, War Office, London, S.W.

CLASS FOR INSTRUCTION IN MILITARY MEDICAL ORGANISATION.

In consequence of the success which in the West of London attended the movement for initiating the formation of an organised Army Medical Civilian Reserve, it is proposed to hold another class this summer. The instruction will be given by specially experienced officers of the Royal Army Medical Corps at a convenient place for medical men residing in the metropolis. The importance of this class is increased by the certainty that trained civilian medical coöperation will have to form a part of the organisation of the new "territorial force." Gentlemen desirous of joining this class are requested to send their names to the acting honorary secretary, Mr. Herbert Chambers, 101, Goldhawk-road, London, W.

Correspondence.

"Audi alteram partem."

CEREBRO-SPINAL MENINGITIS.

To the Editors of THE LANCET.

SIRS,—Owing to the increase of this disease and to the alarming percentage of mortality in such cases, I venture to trouble you again with my opinion as to a possibly favourable treatment. Death is chiefly certified as finally due to coma; and I am sure this is a coma due to mechanical pressure, not to toxæmia. I therefore suggested in your columns last autumn the desirability of relieving this by surgical means. I then described a suitable operation for the purpose—viz., cervico-spinal laminectomy with capillary drainage in the serous stage, or tubal in the purulent condition that usually precedes a fatal issue. The operation on the fourth or fifth left cervical lamina is safe and quite easy, as I have now tried it on the cadaver although unable to try it on the living subject. The left lamina should be turned up as a flap, leaving its dorsal periosteum adherent; and if the treatment be successful, may be returned to its original position so as to leave no patent opening. At the critical point of the disease free drainage into copious antiseptic absorbent dressings may tide over the crisis and pave the way to recovery. The free use of leeches clearly saved two lives out of the nine cases I saw last autumn, and led me to feel that more thorough depletion or relief of tension might save many more. The suggestion has not been taken up, and I should not have troubled you by its repetition had the disease with its attendant serious mortality not increased to such an alarming extent. But till the "sero-pentists" have provided us with a reliable vaccine serum I think the surgeons should not neglect the obvious and yet dangerless method of relieving tension at a critical period of the disease.

I am, Sirs, yours faithfully,

Newquay, Cornwall, April 28th, 1907. ARTHUR W. HARE.

HEART FAILURE DUE TO AIR EMBOLISM.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 27th, p. 1182, is a reference to a fatal case of air embolism. A fatal result usually implies a large and rapid entry of air. I have repeatedly noticed the entry of air into a vein, especially during operations on the neck, without the slightest ill effect on the patient. I have often seen air bubbles injected with the saline solution during intravenous infusion, no obvious harm resulting. A hissing noise, similar to that caused by the suction of air into a vein, may be produced by the passage of air between separated layers of muscle or fascia, when the space between these layers is opened and closed by respiratory movements. Therefore in a given case the mere occurrence of a hissing noise, the heart's action remaining unimpaired, is not proof positive that air is entering a vein. The rapid entrance into a vein of air, in sufficient quantity to arrest the action of the heart, produces a surgical emergency in which prompt treatment can alone give the patient a chance of recovery.

Delore and Duteil,[1] in discussing the cause of death, hold that it consists not simply in obstruction of the pulmonary capillaries, but in an association of pulmonary embolism with weakening of the heart's action due to distension of the cavities on the right side. They suggest as treatment aspiratory puncture of the right ventricle. This minor operation is regarded by Delore and Duteil as quite free from risk and likely, if practised without delay, to be as beneficial on the human subject as it has proved to be on animals.

In carrying out this treatment I would add the following suggestions. After closure by pressure of the wound in the vein incise the skin prior to passing the needle, which can be manipulated more accurately when the resistance of the skin has been removed. Where available a fine trocar and cannula should be employed in preference to a needle, the trocar being removed as soon as the heart cavity is reached in order to prevent injury by the point of the trocar. If an aspirator is not at hand a reversed enema syringe may be fitted to the cannula, but in the absence of suitable apparatus the surgeon will probably be obliged to fall back on suction made with his lips in order to evacuate the blood-stained froth, a short length of rubber tubing being attached for this purpose to the cannula. Artificial respiration will be necessary and may assist in furthering the flow of froth and blood. I am, Sirs, yours faithfully,

Plymouth, April 28th, 1907. C. HAMILTON WHITEFORD.

THE USE OF ALCOHOLIC BEVERAGES.

To the Editors of THE LANCET.

SIRS,—Whilst this subject is being discussed in your columns I should like to point out a class of case in which the use of brandy or whisky is, in my opinion, of undoubted therapeutic value—viz., cases of retention of urine, either from an enlarged prostate or stricture of the urethra, in which patients have to undergo life-long catheterisation. It is my experience that men who make use of brandy or whisky as a drink escape cystitis from decomposition of the urine more frequently than do total abstainers, and I frequently administer half an ounce of brandy or whisky immediately after the operation. It revives the patient and makes him feel comfortable and happy. If alcohol is excreted by the kidneys and appears as such in the urine, and if it is an antiseptic its therapeutic value must be apparent. I am, Sirs, yours faithfully,

Exeter, April 30th, 1907. JOSEPH A. W. PEREIRA.

PHARYNGO-KERATOSIS TREATED BY APPLICATIONS OF SALICYLIC ACID IN SULPHO-RICINATE OF SODA.

To the Editors of THE LANCET.

SIRS,—In the report of a case illustrating the above, which I brought before the Laryngological Society at its meeting on April 5th, a very important fact, and, indeed, the one which gave the main value to the case, was omitted. This was to the effect that the condition—best known as pharyngo-mycosis—was well marked on both tonsils, but that after the patient had made a daily application of a 10 per cent. solution of salicylic acid in sulpho-ricinate of soda to her right tonsil only, a slow but steady diminution in the size and in the consistency of the spots on it was observed after a few weeks. The other tonsil remained as before until the same application was made to it also. This rigid experimental test showed incontrovertibly that the improvement was due to the application and not to any coincidental spontaneous disappearance such as we know to take place from time to time in this disease. It is generally agreed that the condition is really one of no importance, and if a patient can be persuaded to disregard it so much the better; for those, however, who are impatient of the condition, it is gratifying that there should be a method of treatment which has an unmistakeable action on the keratotic condition and which can be placed in their own hands. The action is, of course, analogous to that of salicylic acid upon warts, corns, and similar conditions, and the sulpho-ricinate of soda seems to be the vehicle with which it can be incorporated so as to be as unirritating as possible. In view of the policy I have above described of dissuading patients from submitting to treatment for this condition the opportunities for observing the effect of such treatment are obviously very few. Thanking you for allowing me space for this communication,

I am, Sirs, yours faithfully,

May 1st, 1907. DUNDAS GRANT.

MEDICAL OFFICERS OF HEALTH AND RURAL DISTRICT COUNCILS.

To the Editors of THE LANCET.

SIRS,—In my annual reports to the Oulton Broad urban district council and the Mutford and Lothingland rural district council for 1905, when dwelling upon the Oulton Isolation Joint Hospital, the property of the above-mentioned authorities, I made the following comments:—

> The bathing accommodation is lamentably deficient, there is only one bath in the hospital, this is an ordinary wheel bath and this is not in a very good state, so that patients suffering from scarlet fever, diphtheria, and enteric fever all have to use the same bath. There is another bath at the institution, one in the caretaker's house, but that should be for the use of the staff only. Before a patient can be discharged he or she must go over to the house and take his or her final bath in this one. This, gentlemen, is far from what it ought to be; it is, to say the least, not nice for the staff. What is really required is a discharge room with a proper bath, etc., for each ward.

The hospital consists of four wards built upon the pavilion system, each ward being bedded for four patients, though more are admitted. One block, consisting of two wards, is mostly used for cases of typhoid fever and diphtheria; the other two wards are reserved for cases of scarlet fever.

In my annual report for 1906 which I am now forwarding you (on page 33) you will notice that that condition of affairs *re* bathing still obtained[1] and that I again drew the committee's attention to this lamentable condition of affairs. This report has caused several personal attacks upon myself at meetings of the committee. I was told that the report should not have been presented to the council and that no representations had ever been made to the committee that another bath had been required and that I ought to have apologised for having written such a report. At a meeting of the hospital committee held on the 5th inst. the member whose speech of the 25th inst. *re* cost of patients was reported in the *Eastern Daily Press* of the 26th inst., insinuated in a most aggravating form that my transaction bearing on a matter of the provision of shrubs to the hospital when the grounds were being laid out some two years ago might not have been of a honest and straightforward nature, and the direct impression conveyed to my mind was that I might have been a party to fraud. These hostile attacks culminated in the statements made as per reports of the two newspapers, which I beg to submit for your perusal.

It must come as a revelation to medical superintendents of isolation hospitals that it is a part of their duty on receiving a request for the removal of a patient to hospital to visit and examine the case asked to be removed for the purpose of verifying the diagnosis of the medical brother who has notified the case. What would the Local Government Board say on this matter? What would the medical profession think and say? Is it any wonder that the present Government contemplates taking away the administration of the Public Health Acts from the rural district councils? Is it possible to work in harmony with such bodies and at the same time do one's duty for the welfare of the districts? You will notice that what seems to me to be a direct attack upon myself is made by the member Mr. M. more particularly affecting the administration of the hospital. The figures quoted, as supplied to him by the clerk, I have not as yet had an opportunity of proving. He is wrong to start with, with regard to the number of patients admitted during the years of 1901 and 1902, he giving a much higher number than that actually admitted to hospital, as proved by the register of cases. My connexion with the hospital did not start until 1904. The whole of the figures are jumbled up, including establishment charges, salaries, and everything else. I am expected as medical superintendent to pay the staff, keep a record of all petty cash transactions; so well, so good. At the quarterly meetings of the committee I have to initial all bills presented for payment, including grocers, butchers, milk, drapery, chimney-sweeps, and every other tradesman, and, as you see from the report, am expected to work out the daily cost of maintenance per head, both for patients and staff. Does the medical profession consider these to be the duties of a medical superintendent? There is a clerk—a qualified solicitor—whose duty is it to get out these statements, his or mine? There is a matron. Is it the medical superintendent's duty to examine and check her provision accounts, drapery account, and every other petty account? I shall be glad of your opinion on these points and also any opinion which a medical superintendent may express bearing upon these questions. Would the Local Government Board sanction an inquiry as to my administration of the hospital? Thanking you in anticipation, I am, Sirs, yours faithfully,

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[1] Revue de Chirurgie, No. 3, 1905.

[1] Since the report was printed another bath for patients has been supplied, but discharged patients still take their final bath in the bath supplied for the staff.

SAMUEL J. J. KIRBY.

Oulton Broad, Lowestoft, April 29th, 1907.

A DISCLAIMER.

To the Editors of THE LANCET.

SIRS,—I beg leave to disclaim any association with the medical part of the article which appears in the current number of *Great Thoughts*. In my capacity as President of the Ethological Society I was recently requested to grant an interview on the subject of ethology, which I did, but cautioned the interviewer that I could not allow any medical questions and that I should have to see a proof of the article. This was forwarded to me in due course and returned with my corrections.

To my surprise, on seeing the paper I found considerable additional matter of which I had no knowledge and which, contrary to my express instructions, had reference to my medical work. The offence was made worse by putting the words, which were collaborated from my books, as if spoken by me. I wrote at once to the editor, who replied expressing his regret that the additional matter "was inserted against my wishes" and explained that on "finding the interview was somewhat shorter than those we usually have I inserted the paragraph myself in order to fill up the page after you had seen the proof, as I thought it made interesting copy." Both editor and sub-editor tendered their apologies.

I am, Sirs, yours faithfully,

May 1st, 1907. BERNARD HOLLANDER.

MEDICAL EDUCATION AND THE UNIVERSITY QUESTION IN IRELAND.

To the Editors of THE LANCET.

SIRS,—A recent annotation in THE LANCET entitled "The Irish University Question" emboldens me to write you a rather long letter. The question is one that concerns the education of Irish medical students acutely, but it is too often dismissed with a shrug of the shoulders because of its intricacy, which, I think, is more apparent than real. I venture on a statement of the situation in the hope that it will enable your readers to see what are the real difficulties, feeling sure that in this way the medical student of Ireland will secure their sympathies regardless of political or religious points. When a boil on the neck of a Unionist presents other characteristics than those of a boil on the neck of a Nationalist, when the dislocated shoulder of a Roman Catholic requires different treatment from that required by the dislocated shoulder of a Protestant, when Dublin influenza loses its similarity to Belfast influenza, the medical student will be interested, and interested fundamentally, in racial, religious, and geographical bickerings. At present he wants peace and opportunities for instruction.

Ireland possesses at the present moment the University of Dublin (Trinity College), the Royal University of Ireland (with an office in Dublin and colleges at Belfast, Cork, and Galway), and the Catholic University of Ireland, with its six constituent colleges of Maynooth, University (actually confused in English minds with Trinity College), Blackrock, Carlow, and Clonliffe. The result of this apparent wealth of educational opportunities is that medical education in Ireland is on the wane; we not only do not progress as England and Scotland do but we have begun to go backwards. Trinity College, Dublin, founded more than 300 years ago, has a distinguished past and a successful present. The reasons for tampering with it must be very strong before they can weigh against these facts. The Royal University of Ireland and the Catholic University of Ireland have at any rate no sentimental claims upon tender handling, and if any re-arrangement of university education promising medical and scientific students better chances should be persevered in, even though it should interfere with the present position of these institutions, I do not think their own professors would take a different view.

I make no claim to originality for much of what follows; I have adopted the views of well-informed men. The Royal University of Ireland was established by Lord Beaconsfield in 1879. At the old Queen's University which it superseded a boy *must* have been at the (legally speaking) undenominational colleges at Belfast, Cork, and Galway. But the Roman Catholics objecting to this mixed education, and supported in their objection by the unfortunate fact that the first professors in the three Royal Colleges were Protestants, boycotted the three Royal Colleges and founded in 1854 a Catholic University. Parliament, however, refused a charter to this university and until 1879 the State position was, as far as the Roman Catholic community was concerned, that they could use the undenominational colleges at Belfast, Cork, and Galway, or Trinity College, Dublin, where, as at the three Royal Colleges, the teaching was all in the hands of Protestants. Then came the Royal University of Ireland, founded, it would seem, with the rather Machiavellian intention of indirectly endowing Roman Catholic education. The result of this has been that the Roman Catholic students are examined for their medical degrees to too great an extent by their own professors while the students from Belfast, Galway, and Cork only receive occasional benefit in this way. This accounts, say the professors of Belfast, for the proud position in the honours list of the Royal University of Ireland enjoyed by University College, Dublin. University College, Dublin, needless to say, denies the impeachment, and attributes the admittedly high proportion of academic successes obtained at the University by their students to the application of the pupils and the zeal of the masters.

How does this position affect medical education in Ireland? There is perpetual friction kept up between North Ireland and South Ireland, all idea of the undenominational university is lost, the best students do not go in for the best examinations, the best men for educational posts do not necessarily get them, recrimination occurs between the leaders of thought who ought to be working hand in hand for the best education of the fine material supplied to them by their country. As far as medical education is concerned there is, it seems to me, but one remedy for such a state of affairs—the creation of two brand new universities for Ireland. It is the fact, a fact that will be considered reasonable by one school of thought and regrettable by another, that the Roman Catholics do not approve of mixed education; they will not, if they can avoid it, allow their students to be educated with Protestants, however clearly the rules of the particular institution show that unsectarian education is intended. Now, three-quarters of the population of Ireland are Roman Catholics, a fact which gives them an overpowering right to ask that their views should be met. But if a Roman Catholic university is started in Dublin an unsectarian university should be erected at Belfast, where the students of Belfast, Galway, and Cork could be examined for their medical degrees without the possibility of favouritism and in fair circumstances. Of course, it is dead against modern ideas to found universities with religious restrictions—the great universities of the world have abolished them—but the circumstances in Ireland are peculiar and it seems to me that all Irish medical men should press for the foundation of two new universities and *for peace*, without which the famous Irish medical men will grow less in number and influence. Trinity College, Dublin (Dublin University), would in this way be forced into no unsuitable alliance. The Royal University of Ireland would enjoy fair play and a Roman Catholic university would minister to the educational needs of a country that is largely Roman Catholic in creed.

I am, Sirs, yours faithfully,

CHARLES O'MALLEY.

⁂ Our correspondent's statement, contrary to his design, shows that the whole question bristles with difficulties. Many of them are not touched upon by the writer and most of them cannot be discussed in THE LANCET which is a medical paper. We publish this letter because he has approached the subject from the point of view of the medical teacher, but there is no solid support of his views, so far as we know, among his medical colleagues in Ireland.—ED. L.

THE BUDGET.

To the Editors of THE LANCET.

SIRS,—The cruel and iniquitous income-tax, which is apparently to be maintained at the war level of 1*s*., weighs with special injustice on the medical man. His earnings are not income, properly speaking, but realisation of the capital of his health, strength, and life, and the remission of 3*d*. up to £2000 a year from all sources is totally inadequate as a recognition of this fact. Any method by which its incidence may be minimised is worthy of the attention of the profession, and I may perhaps be permitted to cite my own example.

In the first place, instead of making an allowance to my children, I divided my savings among them as far as was consistent with prudence. It is a long time before the interest on the subdivided capital reaches an amount which renders it liable to the tax, and the time when the total income from earnings and dividends amounts to £2000 is retarded. The amount of the death duty also is reduced. An attendant advantage is that boys early learn the value of money and become accustomed to financial responsibility, they are less likely to be spendthrifts than if they come into a considerable amount all at once. A further precaution is to insure largely, arranging that all premiums are to be paid at or before the age of 60, so that they do not become a burden when the earning power is reduced. Happily, in order to encourage thrift previous Governments have allowed life insurance premiums to be deducted from income liable to taxation. It is not amiss to make a part of the insurance payable at a certain age as a provision for evil days. Bonuses taken in cash instead of being added to the amount insured may perhaps be very welcome in some cases in old age. As a profession we are lamentably improvident, and if we are stung by injustice into better ways it may be good for us. I am, Sirs, yours faithfully,

April 25th, 1907. M.D.

THE RECENT CASE OF PHOSPHORUS POISONING.

To the Editors of THE LANCET.

SIRS,—According to White Paper Cd. 3373, the man Thomas Davis, engaged at Messrs. Morlands' match factory, whose death occasioned the inquiry referred to, was engaged in removing splints which had fallen on to the dipping table by means of a species of toasting fork, not engaged in pouring phosphorus composition on to the revolving table. The remover of the splints should not be exposed to phosphorus fumes to anything the same extent as the "dipper," who pours on the paste and attends to the removal of the frames. If the man had been employed as a frame-dipper or with the phosphorus paste it would have, I think, constituted a breach of the special rules. Apparently the direct cause of the poisoning was the conveyance of phosphorus to the mouth, *but* the fact that such a man was employed in what must always be a dangerous process, unless entirely automatic, raised the question alluded to in the first paragraph of your leader.

I am, Sirs, yours faithfully,

April 27th, 1907. M.R.C.S.

THE ACTIONS OF FORMIC ACID AND THE FORMATES.

To the Editors of THE LANCET.

SIRS,—It is interesting in this connexion to note that many folk-lore stories relate that stinging or biting by ants will revive the dead. So we have the following story from Tasmania: "Two women were impaled by a sting ray and died. Two black fellows, the bringers of fire, who are now stars, took the bodies, laid them between great fires, and having collected many ants, placed them on their breasts. Severely, intensely were they bitten. The women revived, they lived once more, and are now the companions of the black fellows in the sky."[1]

I am, Sirs, yours faithfully,

April 30th, 1907. FORMICA.

THE MARSEILLES MUNICIPAL ABATTOIR.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

IN describing the great Paris municipal slaughter-house of La Villette I related how the butchers constituted a privileged corporation. Their influence it was that defeated the excellent reforms introduced at the commencement of the last century. In many provincial towns the large slaughter hall was substituted for the private small shambles. But the corporation of the Paris butchers prevented the adoption of this principle when in 1810 the decree ordering the town of Paris to build public slaughter-houses was published. The worst of this is that other towns thought that they could not do better than follow the Parisian example. In Germany and in Switzerland, on the contrary, the example given in the French provinces was followed, while in France the provinces themselves abandoned what they had done so as to imitate Paris. It has taken not far short of a century to convince the French of their error in this respect. Perhaps one of the most remarkable illustrations of this fact is the new municipal slaughter-house of Marseilles. As the buildings were inaugurated *in January, 1895, they* may be considered as, comparatively speaking, new. What is more, the people of Marseilles are very proud of their public abattoir, and in a sense it does credit to the town. The buildings are well situated, they are well kept, they cost a great deal of money, and they may be described as almost palatial. Unfortunately, it remains the fact that a more modest style of architecture, less expenditure of money but a more scientific plan would have given better results. The fault, however, rests with Paris. The architect himself in his report on the subject states that he visited some neighbouring public slaughter-houses, that he only travelled 860 kilometres, and he rests his principal claim for the justification of his plan on the fact that he thoroughly examined the cattle-market and slaughter-house of La Villette.

The members of the Marseilles municipal council probably knew nothing whatsoever about the building of slaughter-houses, therefore they doubtless thought that if the architect's plan was based on what had been done in Paris they could not go far wrong in approving the scheme This was, of course, the greatest mistake that could have been committed, for France was taking the lead in Europe in this matter till the fatal example given in Paris threw the whole nation back and now it is Germany which is first on the list. If the architect employed by the town of Marseilles had not visited the neighbouring abattoirs and had avoided Paris altogether but had gone to Germany instead he would have learnt something and could have put Marseilles at the head of the movement, *instead of building in 1894* a public abattoir which is not so appropriately planned as the public slaughter-house *in the* town of Rochefort built in 1790 or as those built by the towns of Blois and Grenoble about a century ago. But what is even more remarkable is the fact that Marseilles used to possess in olden times a public slaughter-house *which was* planned much more in accordance with modern ideas than its present and new abattoir. There is a standard work on the subject entitled "Études relatives à l'Art des Constructions," written by L. Bruyère, formerly director of public works of Paris, and published in 1823. In this book Bruyère describes several slaughter-houses and he says: "Marseilles possesses a large abattoir situated outside the town and near to the lazaret. Its quadrangular plan is divided into three equal parts by a double row of pillars. The space in the centre is allotted to the carriages and the animals and people that pass to and fro. The two lateral *portions serve one* for the slaughtering and the other for the storage of the carcasses." As M. J. de Loverdo in *Les Abattoirs Publics* remarks: "This disposition appears altogether remarkable, for it seems to us analogous to what has been realised by the last improvements effected by German architecture. These three sections of the old Marseilles abattoir recall the general plan of the Breslau, the Offenbach, and other German slaughter-houses. The central part can be compared with the central hall of intercommunication reserved for carts and workers, and which connects the slaughter-hall that is on one side and the modern cold storage for the carcasses which is on the other side."

To build the new slaughter-house at Marseilles, which, at least theoretically, is not so well designed as the old slaughter-house, the cost in space and money was greater than if the old plan had been utilised but on a larger scale. The modern abattoir is built in the Cabucelle quarter, well away from the town and on a height which dominates the Bay of Madrague beyond the Joliette docks. Close to the sea shore, conveniently near to the landing quays, there is a large cattle or sheep market. This is an abominable place. All the partitions are made of wood and it does not seem to have occurred to anyone that the risk resulting from the employment of wood might be reduced if it was frequently whitewashed. This market is used for the animals, mostly sheep brought over from Algeria. The absurd thing about it is that these animals are not killed on the spot. Many of them are sent by rail into the interior and put out to grass. On the other hand, on the summit of the hill overlooking this market and where the new slaughter-house has been built, there is a small but quite modern cattle and sheep market. The animals that are brought here, however, are killed almost immediately, so that it would not have mattered so much if they occasionally rubbed against some contaminated wooden partitions or stood on muddy, porous ground saturated with manure. The animals would be killed probably before any disease that they might contract had time to develop. In any case, it is obvious that the danger is much greater if cattle are to travel considerable distances. All markets should be properly constructed and properly drained, and the place where the animals stand should be water-tight and no contamination of the subsoil shall be possible. But if any exception to such rules could be tolerated it would be in regard to animals that are to be slaughtered at once. At Marseilles, on the contrary, the sanitary market is reserved for the animals that are to be killed and the insanitary market for the animals that are not to be killed. At most the animals that are bought at the cattle market adjacent to the slaughter-house may be kept for a night or two in stables prepared for that purpose and situated on the premises. From the sanitary point of view these stables are inferior to the market. They are paved with uncemented cobbles and as these stones give way and are displaced pools of liquid manure form in the hollows. The mangers are of wood and the stables are not as frequently or as thoroughly cleaned out as is desirable. Also, it may be noted that these stables are at some distance from the slaughter pavilions. These are built on much the same plan as at La Villette, but in Paris the stabling is nearer at hand and therefore more convenient.

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[1] The Childhood of Fiction: a Study of Folk Tales and Primitive Thought, by J. A. Macculloch, London, John Murray, 1905.

There are three large pavilions for the slaughtering of horned cattle and sheep. As at Paris, each pavilion has a vast central space or court and on each side there are numerous partitions where the butchers may work in private. Some critics have expressed the opinion that these pavilions are not high enough. In any case, there seemed to me to be ample ventilation and light. On the occasion of my visit the greater part of the day's slaughtering was terminated, but there were still some animals remaining to be killed. Going among these I did not notice any evil odours. The viscera were promptly removed. The paunches, intestines, in fact whatever could not be swept out of sight into the drain, were promptly conveyed to carts and these carts are taken away daily by a dealer in manure. The floors of the slaughter departments are well cemented and drained and the fittings are for the most part of iron. All this I was assured was thoroughly scoured out twice a day and here and there wherever an accumulation of dirt occurs the place is washed at once. Thus partial cleaning is going on all day long. Outside there is a magnificent broad avenue planted with oriental plane-trees. Their luxurious foliage and gigantic leaves afford grateful shade during the hot days of summer.

On the opposite side of this majestic row of trees and spacious avenue there are smaller buildings. In two of these a number of persons, for the most part women, work at preparing tripe. This is always dirty, unpleasant work, and it is very necessary that it should be done under the strict surveillance of responsible municipal officers. Therefore the tripe dealers must come to the slaughter-house and are placed in lofty, well-lighted, and ventilated buildings. Here there is an unlimited supply of hot and cold water but the monthly charge is 32 francs (25*s*. 7*d*.) per tap and 6*s*. 10*d*. per seat. The place is divided into compartments, each large enough for 12 persons to work together under one employer. In another building the same sort of provision is made for preparing sausage skins, &c., and this likewise is a bye-product which cannot be produced without creating considerable nuisance. It is therefore well that these trades should be carried on in isolated specially constructed buildings well away from dwelling-houses. In all these respects the care taken and provision made at Marseilles are well worthy of commendation.

The slaughter-house for hogs is much more in accordance with modern principles than is that for horned cattle. It is a slaughter hall. Large flag-stones, measuring some 6 by 3 feet, are employed as tables and are easy to keep clean and are non-absorbent. The floors are cemented as also is the lower portion of the walls. There are iron cauldrons for scalding the pigs and there is no absorbent material anywhere. Perhaps, however, what is most to be praised at the Marseilles abattoir are the very admirable laboratory and physiological museum which face the main entrances. There extensive microscopic researches have been made and the veterinary surgeons have all the necessary space and utensils to pursue their scientific studies. The inspecting staff consists of a chief veterinary surgeon, two assistants, and 16 inspectors. The number of animals killed during the year 1905 was: bulls, bullocks, and cows, 33,150; calves, 29,802; sheep, 197,198; lambs, 40,311; and hogs, 39,923. Then there were also 7481 horses and mules and 405 donkeys slaughtered. The charges—that is, the payments made to the municipality for the use of the abattoir by the butcher—are: 3 francs 50 centimes per head for killing horned cattle, 35 centimes per head for sheep, 30 centimes per head for lambs, 2 francs 50 centimes per head for hogs (this includes the scalding for removing the bristles, &c.), and 1 franc 50 centimes per head for calves. Thus, taking the largest item, the 33,150 horned cattle at 3 francs 50 centimes each, this makes 116,356 francs (or £4654) income for the municipality. No fear is entertained that the debt contracted to build the slaughter-house will be paid off in course of time and then the public abattoir will provide a fruitful source of public revenue. From the public health point of view it would have been desirable that this institution should have been constructed more in accordance with modern discoveries and principles. Nevertheless, it affords many guarantees to the public. It removes from the town various industries, especially in regard to the bye-products, that are likely to give rise to a dangerous nuisance. It places these under strict surveillance. It focuses the cattle and the meat trade on one spot and renders the work of inspection easier and more likely to be efficacious. It also insures cleanliness. These are great advantages which the inhabitants of Marseilles have secured and upon which they are to be congratulated.

SOME TURKISH LAZARETS

AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

(*With Reproductions of Photographs taken by the Author.*)

II.[1]

Means of Landing and Re-embarking the Pilgrims at the Lazaret of Camaran.—"Sambouks"—The Tug "Camaran."—The Landing Stages: the Two Jetties in the Bay and the Four Landing Piers for Pilgrims.

SINCE the pilgrims land at Camaran solely to please the sanitary authorities the latter have to provide means for taking them from the ship to the shore and back again to the ship at the expiry of their term of quarantine. It will be convenient to consider, first, the means of transport between ship and shore; and secondly, the jetties at which the pilgrims are landed.

(*a*) *"Sambouks" and the tug "Camaran."*—The pilgrims are conveyed ashore in native boats called "sambouks." These craft vary much in size; the largest are nearly fifty yards, the smallest only some ten yards, long. They draw from two to five feet of water. They can carry from 30 to 100 pilgrims, the number varying with the size of the boat and also with the amount of luggage that the pilgrims have with them. The Persians and Javanese carry always a large quantity of baggage, while Indians as a rule, and particularly the poorer amongst them, have very little. The lazaret has at its disposal 15 of these sambouks of different sizes. Each year a contract is made with the owners specifying the conditions of their engagement for the season. A small sambouk is seen in the accompanying illustration (Fig. 1). Formerly these boats sailed, or were rowed, from the ship to the shore. But since 1905 the lazaret has possessed a tug, called the *Camaran*, which tows the sambouks. The gain in time and in every other respect has been considerable. The tug is a small steamer of 34 tons and 25 horse power; she is some 20 yards long and four wide and can make from eight to nine and a half knots an hour. This steamer, which was built in Constantinople for the Board of Health, has already proved most useful.

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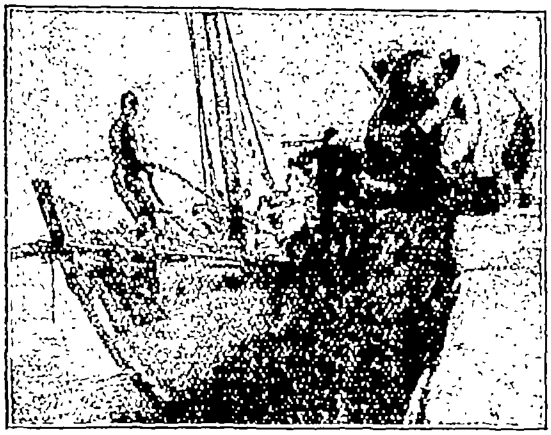
[1] No. I. was published in THE LANCET of April 27th, 1907, p. 1163.

FIG. 1



Sambouk; pilgrims landing at the first landing stage.

(*b*) *The landing stages.*—The lazaret has six landing stages in all. Of these two are on the northern shores of the bay mentioned above and are used for all purposes connected with the administration of the lazaret; the other four are outside the bay, on the east coast of the island, and are used for the landing and re-embarking of the pilgrims. They may be briefly described in order.

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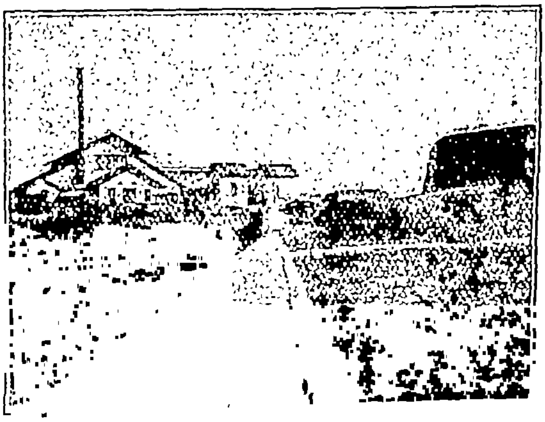
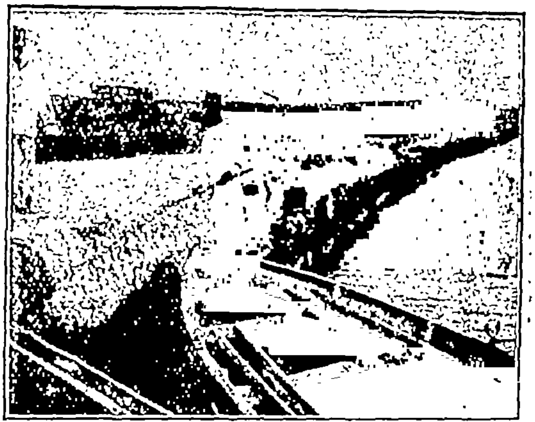


The jetée du parloir. Machinery building, laboratory, and "parloir."

The *Mervani jetty*, so-called from its proximity to the Mervani plain (i.e., the plain to the north of the bay), is a well-built jetty near the inner end of the bay. It was rebuilt in 1904, constructed of two lateral walls of dressed stone, filled in between with stones *à sec*—that is to say, without mortar. The entire length of the jetty is 132 metres and the width three metres. The head, which is about 11 metres square, is built of artificial concrete blocks; a two-ton crane stands at the end of the pier. The rails of the Décauville railway run to the jetty head, and also a five-centimetre pipe which conducts distilled water to a tap at the end of the pier by means of which portable tanks in the sambouks can be filled and good drinking water thus conveyed to ships that need it.

The *jetée du parloir*, so called because at its end is the "parloir," or small house where the interrogation of coasting ships takes place, is also on the northern side of the bay, but much nearer its entrance than the other. It was built in 1899, is 82 metres long and two metres wide, and is constructed of armoured cement, resting on arches and piers composed of concrete blocks. This pier, which is seen in Fig. 2, is in excellent condition and is one of the most frequently used of all the piers.

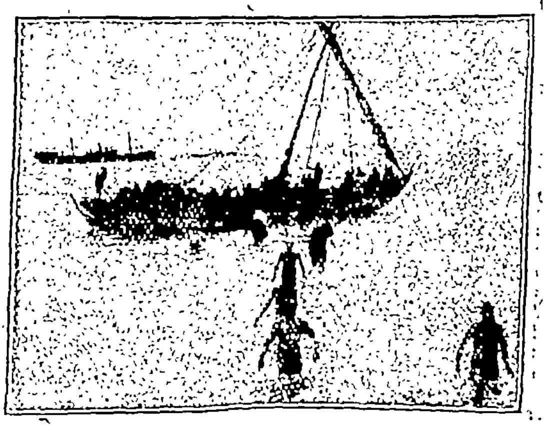
FIG. 3.



The first landing pier for pilgrims.

The *first landing stage* for pilgrims ("Birindji"), built originally of stone *à sec*, has been repaired with cement. Its full length is 96 metres and its width 3·10 metres, except at the head, which is 8·5 metres wide. Rails run to the pier head. This pier is in a bad condition and requires thorough repair. At its end there are about 70 centimetres of water at low tide and 1·70 metres at high tide, so that the sambouks can nearly always come up to the pier head; in summer, when the tides are exceptionally low, they occasionally find a difficulty, but only for the short period of quite low tide. *This jetty is well seen in Fig. 3.* It serves for the landing of pilgrims for the first and second camps or "cordons."

FIG. 4.



Pilgrims wading ashore to the fourth landing pier.

The *second landing stage* for pilgrims ("Iraki") is situated between the second and third cordons. It is of the same construction as the first but in a still worse condition of repair. Attempts have been made to repair it with boards and old rails, but it requires almost to be rebuilt, and the report of the Commission recommends, in addition, that it should be prolonged some five metres. Its present length is 48 metres and its width 3·80 metres, except at the head, which is 7·8 metres wide. It has no railway. This pier serves for the landing of pilgrims going to the second or third cordons.

The *third landing stage* ("De-Yr") is still further north. Its length is 117 metres and its width 3·40 metres; the head has completely disappeared. It is of the same construction as the other two and requires thorough repair and also lengthening by some 10 or 20 metres, the water at its end being very shallow. There is no railway along this jetty. It is used for landing and re-embarking pilgrims for the third and fourth cordons.

The *fourth landing stage* ("El-Kat-el-Kurush") is situated at the inner end of a bay, between the fifth and sixth cordons. It is 80 metres long and three metres wide, with a head four metres wide. It is built on eight arches and piles of dressed stone on a concrete base. It is in fair condition, but two of the arches are cracked and the pier is not nearly long enough. At low tide there are only 20 centimetres (about eight inches) of water at the head, and almost constantly the pilgrims landing here have to jump into the water up to their waists and wade ashore. They may be seen doing so in Fig. 4. It has been proposed to lengthen this pier by 60 metres, at an estimated cost of over £T.2700, but the inspection commission, for reasons which will be explained later, recommends the reduction of the long diameter of the lazaret to about one half of its present length, with consequent abandonment of the fifth and sixth existing cordons and also of this landing stage.

Proposed new landing stage.—At a spot between the present third and fourth cordons there is a small island a short distance from the shore and united to the latter by a sandy spit or causeway, except at high tide, when the island is completely cut off. The commission proposes to construct a new jetty, running over this causeway and out at the north end of the island. It will be almost in front of the second of the three disinfecting blocks to be described hereafter. There will thus still be four landing stages for pilgrims and, as will be shown in a later chapter, they will be quite as usefully and almost as symmetrically placed as at present.

When once the pilgrims are landed they are conducted, with their baggage, to one of the three disinfecting blocks. These buildings and the measures applied there will be described in the next article.

(To be continued.)

THE OUTBREAK OF PLAGUE IN JEDDAH.

(FROM THE BRITISH DELEGATE TO THE CONSTANTINOPLE BOARD OF HEALTH.)

THE outbreak of plague in Jeddah is beginning to subside. It will be recalled that the present epidemic, which is probably a revival of that which prevailed there last summer, began about Jan. 8th. At the date of my last letter[1] the total number of cases recorded down to Feb. 3rd had been 23, and that of deaths 22. Since then the weekly returns have been as follows:—

From Feb. 4th to 10th	10 cases,	10 deaths.
,, ,, 11th ,, 17th	20 ,,	19 ,,
,, ,, 18th ,, 24th	32 ,,	30 ,,
,, ,, 25th ,, March 4th ...	62 ,,	59 ,,
,, March 5th ,, ,, 10th ...	35 ,,	35 ,,
,, ,, 11th ,, ,, 17th ...	30 ,,	27 ,,
,, ,, 18th ,, ,, 24th ...	44 ,,	43 ,,
,, ,, 25th ,, ,, 30th ...	12 ,,	11 ,,
,, ,, 31st ,, April 7th ...	29 ,,	29 ,,
,, April 8th ,, ,, 14th ...	17 ,,	17 ,,
,, ,, 15th ,, ,, 21st ...	14 ,,	13 ,,

The total number of cases since the reappearance of the disease has therefore been 330 and that of deaths 317. It is a remarkable fact that, with the single exception of a fatal case of plague in a Javanese[2] pilgrim, the outbreak in Jeddah has been strictly confined to the native inhabitants of the town. A few other pilgrims did, however, develop the disease shortly after leaving Jeddah on their return journey home, and to these I shall refer again; but it is certainly noteworthy that, with plague epidemic, and fairly severely epidemic, in the town of Jeddah, the largest pilgrimage on record passed through that town twice—first, on the way to Mecca, and later after the completion of the Haj—and yet scarcely half a dozen of the pilgrims contracted the infection. I am inclined to attribute this relative immunity to the facts that the pilgrims do not stay long in Jeddah—not more than a few days as a rule, though in some instances it may be for much longer; that most of them lodge in houses specially built for the purpose, which are surveyed, cleansed, and whitewashed and put in order before the arrival of the pilgrims; and that those who are too poor to stop in houses camp out in the open air, where they are little exposed to the infection of plague either from contact with the inhabitants of the town or with rats.

There seems to have been much difficulty in applying measures for the suppression of the outbreak. The Arab inhabitants dread European interference more than the disease; the large majority of cases have only become known to the authorities after death and it is certain that many that recovered were never brought to the knowledge of the latter. Scarcely any of the cases have been removed to hospital. When a death from plague has become known the house where it occurred has been disinfected, but there must have been numbers of infected houses to which neither disinfection nor any other measure of prophylaxis was applied. Shortly after the revival of the disease in January it was proved beyond a doubt that rats were dying from plague and were in all probability the main channel by which the infection was being spread. A small reward, of the value of one penny, was offered for the bodies of dead rats, but there is no evidence at present that this measure led to any substantial results. The medical staff of the town was strengthened and an ample supply of plague prophylactic was furnished to them, but the latest reports show that it was almost impossible to induce the people to allow themselves to be inoculated. In some instances the opposition to the authorities took a more active form and violence was used. In one case a native woman—possibly interpreting too literally the injunction to heap coals of fire on others' heads—poured a torrent of hot ashes from a window on to the head of a disinfector who attempted to enter the house.

Outside Jeddah the following known cases of plague—which undoubtedly contracted the infection in that town—have occurred. Three persons arriving in Mecca from Jeddah developed the disease and two of them died. Two pilgrims on the return journey to India were landed at Aden with signs of plague and one of them died. Two other cases in pilgrims returning from Jeddah to the Yemen were landed at Camaran. Finally, among pilgrims returning northwards by the Suez Canal, two cases of plague have been observed, both at the Egyptian lazaret of El Tor. There have thus been, so far as is known, only nine instances in which the infection has been carried from Jeddah, and these have not given rise to any epidemic extension of plague elsewhere. Had Jeddah been as deeply infected with cholera as it has been with plague, it is easy to imagine how very different and how infinitely more serious to the rest of the world the result would have been.

Constantinople, April 24th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Our Hospitals and their Incomes.

IN previous communications I have drawn attention to the comparative stagnation or actual diminution of the amount of subscriptions received by our hospitals, and on Friday last a most able article dealing with this matter and giving definite statistics appeared in the *Birmingham Daily Post*. The subject is one which must be of interest to all cities where there are many hospitals, and I have no hesitation, therefore, large quantity of baggage, while Indians as a rule, and particularly the poorer amongst them, have very little. The lazaret has at its disposal 15 of these sambouks of different sizes. Each year a contract is made with the owners specifying the conditions of their engagement for the season. A small sambouk is seen in the accompanying illustration (Fig. 1). Formerly these boats sailed, or were rowed, from the ship to the shore. But since 1905 the lazaret has possessed a tug, called the *Camaran*, which tows the sambouks. The gain in time and in every other respect has been considerable. The tug is a small steamer of 34 tons and 25 horse power; she is some 20 yards long and four wide and can make from eight to nine and a half knots an hour. This steamer, which was built in Constantinople for the Board of Health, has already proved most useful.

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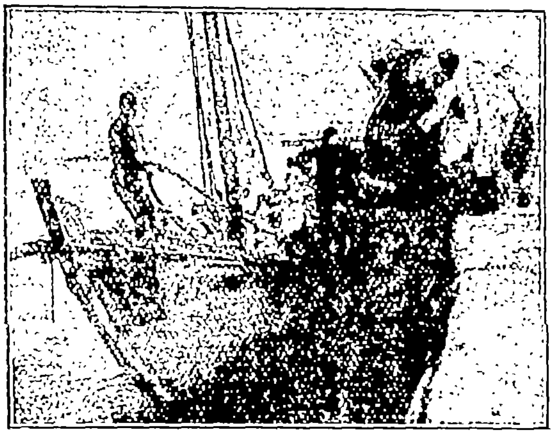
[1] THE LANCET, Feb 16th, p. 464.

[2] I should be glad of this opportunity to correct a slight printer's error which crept into my last letter. In column 2 of page 464 of THE LANCET, line 33, the word "Japanese" should be "Javanese." There are no doubt several Japanese Moslems; but during my stay in the Hedjaz last winter I did not come across, or indeed hear of, any pilgrims of that race. Javanese (a general term for pilgrims from the Dutch East Indies) are, next to Indians, usually the most numerous of all races in each year's pilgrimage.

FIG. 1



Sambouk; pilgrims landing at the first landing stage.

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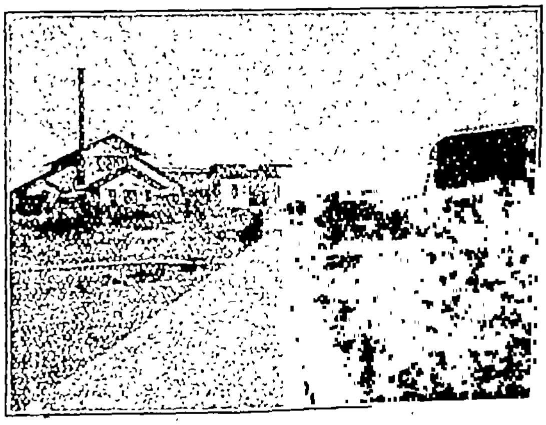

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The *jetée du parloir*, so called because at its end is the "parloir," or small house where the interrogation of coasting ships takes place, is also on the northern side of the bay but much nearer its entrance than the other. It was built in 1899, is 82 metres long and two metres wide, and is constructed of armoured cement, resting on arches and piers composed of concrete blocks. This pier, which is seen in Fig. 2, is in excellent condition and is one of the most frequently used of all the piers.

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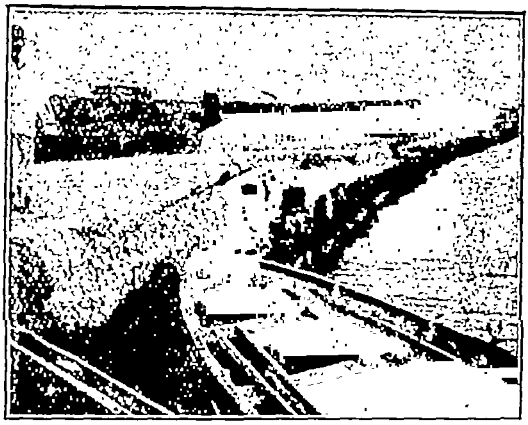

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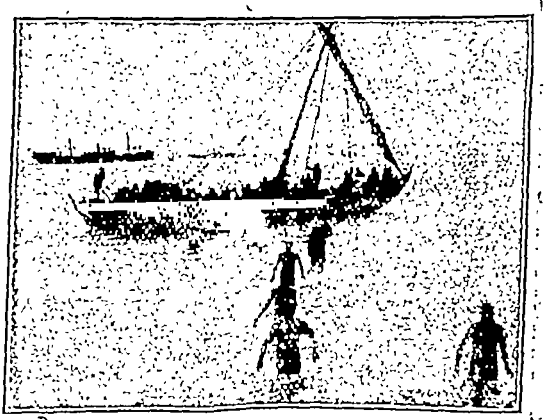

Pilgrims wading ashore to the fourth landing pier.

The *second landing stage* for pilgrims ("Iraki") is situated between the second and third cordons. It is of the same construction as the first but in a still worse condition of repair. Attempts have been made to repair it with boards very great extent by school influence, acting by the attendance at school of actual sufferers from the disease. Evidence is still wanting in St. Helen's that healthy "contacts" had introduced the disease to the schools. Measles was present at the end of the year and became epidemic in January. The number of families apparently affected had been about 930 and the number of cases among these was 1800. With regard to the exclusion of scholars living in infected houses in St. Helen's, there has never been any rule laid down by the health committee on the matter; the same general rule which applies to the exclusion of scholars from any cause is held to apply in St. Helen's. He recommended to the committee that it should be remitted to the secretary for elementary education and himself to draw up draft regulations for the exclusion of "contacts" with infectious diseases, similar to those adopted now by several authorities in the large towns.

April 30th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Infirmary.

DURING the past few years it has been customary for the board of management of the Cardiff Infirmary to issue, in connexion with its annual report, a supplementary report pointing out what are the needs of the institution as regards extensions and improvements. As a result many important additions have been made, including an operating theatre, casualty wards, and a new out-patient department. The last supplementary report suggested additional accommodation for 64 patients and other extensions to cost altogether £30,000. This would increase the accommodation to 250 beds. That this would not be too great is shown by the fact that there are constantly between 500 and 600 patients awaiting admission to the wards. For it must not be forgotten that the institution serves not only Cardiff but the large colliery districts of the Rhondda Valleys, Aberdare, and Merthyr, where there is a population approaching half a million persons. The appeal of the board has already met with a favourable response, Mr. John Cory, J.P., having promised to give £5000, provided the remaining £25,000 are subscribed within six months.

Meat Inspection by the Police.

It has been pointed out more than once that the difficulties of meat inspection in Cardiff arise almost entirely in connexion with meat which is slaughtered outside the borough. There are no private slaughter-houses in the town and inspection at the public abattoirs is a comparatively easy matter. Dr. R. Prichard, medical officer of health of the Llandaff and Dinas Powis rural district, which adjoins Cardiff, has recently made a suggestion for increasing the efficiency of the inspection in rural districts. He points out that the county police already take samples for analysis under the Sale of Food and Drugs Acts and administer the Contagious Diseases (Animals) Acts, and he proposes that they should visit the slaughter-houses on their beats and inspect any carcass that may be there. Dr. Prichard admits that the ordinary policeman is not a trained meat inspector, but he thinks "that a lesson or two from the county medical officer of health would be enough to enable him to distinguish diseased meat from what is not."

Isolation Wards of the Bristol General Hospital.

Special wards for the observation and isolation of suspected cases of infectious disease are now recognised as a necessary part of the equipment of general hospitals. Their absence must not only increase very considerably the anxieties of the resident staff but must also add to the difficulties and cost of administration. It is gratifying, therefore, to be able to record the completion of the isolation block which has recently been erected in connexion with the Bristol General Hospital. The building is of two storeys, each with a distinct entrance. On the ground floor are two wards for two beds and one for one bed. Between two of the wards is a nurses' duty room. Leading out of each of the larger wards is a circular sanitary annexe, containing water-closet and slop sink, with cross-ventilated passage. There is a portable bath for the use of all the wards. The remaining rooms include bedrooms for two nurses, bath-room, water-closet, and store room. The arrangement of the first floor is nearly the same as that of the ground floor, the difference being in the provision of a nurses' sitting room and the exclusion of a bath-room. The characteristics of modern fever hospitals, including the rounding of corners and the absence of ledges, have been applied to the wards, and the Gilmour hardwood doors have been used. These are made of small pieces of wood laid grain against grain and finished with an absolutely flush surface on both sides. There are fireplaces in the wards and other rooms, and the building is also heated with low pressure hot water pipes and radiators. The lighting is by electricity and the air can be extracted by an electrically driven fan. The cost of this building, which is quite separate from the main hospital buildings, was £5500, by no means an extravagant sum considering the accommodation which has been provided.

April 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Cerebro-spinal Fever in Edinburgh and Leith.

THIS fever is increasing in Edinburgh. According to the report submitted to the public health committee, 35 cases have occurred since the beginning of the month. The first case reported in the city was in January and in the month of March 31 supposed cases were reported and 18 deaths occurred. Of the 35 cases reported in April up to the date of the meeting (April 23rd) twice as many occurred in the old town as in the new town. During the month there were 24 deaths. The disease is also present in Leith, where the medical officer of health has been examining bacteriologically the throats and noses of persons who have been in contact with cases. The families of patients have been isolated and "contacts" who are not isolated have their noses and throats disinfected. The houses where cases have occurred are being thoroughly disinfected as well as the belongings of the inmates. There has been a reduction in the number of cases notified in Leith. Dr. W. Robertson's report will be waited for with unusual interest. There is no aspect of the disease so unsatisfactory and even alarming to the public mind as the knowledge that the channel by which infection enters the body is not known and that it is consequently impossible to know what special precautions to take.

Edinburgh Public Health Estimates.

It is always interesting to note the cost of administering the public health arrangements in a large city and the estimates for the incoming year, which begins on May 1st, have just been before the public health committee. The estimated expenditure amounts to £30,795. Some of the items going to the making up of this amount are: medical officers, £1765; sanitary inspectors, £3985; burgh engineer's department, £1005; reporting infectious diseases, £350; Colinton Mains Hospital, £19,350; Portobello Hospital, £410; and Campsie Convalescent Home, £955.

Royal Visit to Glasgow.

The visit to Glasgow of their Royal Highnesses the Prince and Princess of Wales was accomplished last week under the most favourable auspices. The city was profusely decorated in their honour, the weather was propitious, and notwithstanding the multitudes that kept holiday and crowded the streets there was almost an entire absence of serious accidents. Their Royal Highnesses during their visit, which extended from Tuesday to Friday, were the guests of Lord Blythswood at Renfrew. On the first day there was a reception in the St. Andrew's Halls; in the afternoon the new laboratories at the University were inspected and formally opened by the Prince. The next day was occupied in laying the foundation stone of the new Royal Infirmary, followed by a luncheon at the Municipal Buildings; while on the last day of their visit their Royal Highnesses visited Clydebank and inaugurated the new Rothesay Dock which has just been completed there. The scene at the University was exceptionally brilliant. A crowded and distinguished gathering representative of the academic, civic, and other interests assembled in the Bute Hall, where the ceremony of conferring the honorary degrees took place. Among those who received the degree of LL.D. were the Prince and Princess of Wales, the Lord Provost of Glasgow, Mr. Wyndham (late Lord Rector), Mr. Asquith (present Lord Rector of the University), and Professor J. G. McKendrick. The degrees were conferred by Lord Kelvin, Chancellor of in touching upon the matter again in the light of the extended information so recently provided, more especially as the conclusions which our leading daily paper draws from the investigations of its contributor are open to some doubt. Taking five of our principal hospitals, the General, the Queen's, the Women's, the Children's, and the Eye Hospital, it appears that 20 years ago (1886) the total income of the five was £34,069 and last year (1906) it amounted to £54,825. In 1886 the moiety derived from subscriptions was £12,963, and in 1906 this moiety had increased to £17,416—that is, in the former year the subscriptions formed a little more than 35·1 per cent. of the total income and in the latter year the percentage had fallen to about 30·7. In other words, there has been during the past 20 years a relative diminution of the subscriptions as contrasted with the total income. During the same period the number of in-patients received into the five hospitals has increased from 7134 to 10,297, and the number of out-patients from 10,297 to 159,032. One of the inferences drawn from these facts by the writer of the leading article in the *Daily Post* is that as the number of subscribers and the amount of subscriptions are falling off some of the committees should "concentrate their attention upon the acquirement of new subscribers," and he urges that nothing but a personal canvass will produce the desired effect. It is frequently stated that "the number of persons capable of giving a regular subscription to one or more institutions is far larger than is accounted for by a perusal of the subscription lists," but the evidence upon which this statement is made is not quite clear, and it by no means follows that because a given person has a certain amount of income or lives in a certain style he has any money which he can devote to hospital support, for frequently he has to spend the whole of the income he makes in maintaining those conditions of life which enable him to gain the income. Moreover, in considering this question of the relative diminution of hospital support by persons who have good average incomes, it must not be forgotten that the number of hospitals, dispensaries, and other charities is continually increasing, and taking the case of Birmingham the actual increase in the amount of subscriptions during the past 20 years as shown by the returns of the five hospitals referred to does not give a complete idea of the total increase of subscriptions during the whole of that period, for numerous other charities on various scales have been established or enlarged and their necessities have caused an expansion of the area over which subscriptions are distributed. It may still appear when statistics are available that taking all the newer institutions into consideration the amount of subscriptions is still showing reduction as contrasted with the number of patients treated and the total amount of income. If this should prove to be so the fact would not be surprising, for it must be remembered that the portion of the community from which subscriptions are drawn finds that the expense of living continually increases. We are in a period of extravagance, not only in public but also in private life, and at present there is no sign of a movement which shall tend to the reduction of those so-called "necessary" expenses which absorb money that otherwise might be devoted to charities. Further, the classes from whom hospital subscriptions are expected are feeling more and more the burden of taxation. Their incomes are taxed in unreasonable proportion for national purposes, they are taxed for the education of other people's children, and for the more or less complete maintenance of many of them. In these circumstances it is scarcely surprising that voluntary subscriptions for charitable purposes do not greatly increase, for it may be taken as certain that the more people are forced to do the less they will do in a voluntary manner. Looked at from this point of view it does not appear probable that a personal canvass will be very effectual in raising the amount of the subscriptions for any length of time, for it is not likely that the causes which militate against increase will diminish. In these circumstances, then, it becomes interesting to inquire into the amount given to the hospitals by the more popular Hospital Saturday Fund, which may be looked upon as the subscriptions of those who make most use of the hospitals. This Fund, under the admirable management of the committee, has considerably increased during the past 20 years, and it is therefore the more surprising to find from the statistics provided that the portion devoted to the five hospitals has diminished as contrasted with their total income. In 1886 the amount given from the Hospital Saturday Fund to the five hospitals under consideration was £4583, and in 1906 it had increased to £6975, or, in other words, in the earlier year it formed a little less than 13·5 per cent. of the total income and in 1906 a little more than 12·7 per cent. There is no doubt that the remainder of the Hospital Saturday Fund is well utilised, but in the circumstances it may be urged fairly that more of it might with advantage be devoted to the maintenance of the hospitals.

The Health of Birmingham.

For a considerable period we have rejoiced in a low death-rate and some of the more sanguine of us were hopeful that the time had come when the low rate would be practically permanent. We are inclined to feel disappointed, therefore, to find from the medical officer's report that whilst it is still low, 19·9 per 1000, it is higher than it has been during the first quarter of the year since 1904, but there is consolation in the knowledge that it is still below the average for the first quarter of the past ten years, which is 20·3 per 1000. Part of the increase appears to have been due to the very varying and inclement weather, for the number of deaths from pulmonary and pleuritic inflammations has been large. Measles also has been more than usually fatal, and the scarlet fever from which we have been suffering appears to have become more virulent, for its death-rate has risen to 4·7 per cent. Diphtheria and typhoid fever are also more prevalent than is desirable. The birth-rate for the quarter was only 29 per 1000.

The Notification of Consumption at Coventry.

Coventry has decided to follow Birmingham's lead and its sanitary committee has made arrangements for the voluntary notification of pulmonary tuberculosis. It was also decided at a recent meeting of the Coventry city council that Birmingham should be approached as to the terms on which Coventry might be allowed to utilise the proposed sanatorium which is to be established near Cheltenham, where it is suggested that 40 chalets should be erected as soon as possible.

April 30th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Health of Liverpool.

THE birth-rate in Liverpool for the week ended April 20th was 35 per 1000. The death-rate was 20·1 per 1000, compared with a mortality of 23·5 per 1000 a year ago. The zymotic cases in hospital were: small-pox, 4; scarlet fever, 372; typhus fever, 7; typhoid fever, 42; diphtheria, 37; and in isolation, 63. This time last year the epidemic of measles was accountable for the higher death-rate.

St. Helen's Hospital: Workmen's Contributions.

The thirty-fourth annual report of the St. Helen's Hospital showed that, in spite of the large growth of expenditure consequent on the enlargement of the hospital, the income for the year had grown correspondingly owing entirely to the highly satisfactory increase in the penny-a-week contributions of the working men, which amounted to £3198, against £2478 in the previous year. During the year 829 patients had been treated, against 707 in the previous year. The hospital has sustained a great loss by the death of Sir David Gamble, Bart., who was one of its warmest supporters.

Epidemic of Measles at St. Helen's.

The medical officer of health (Dr. J. J. Buchan) has submitted a lengthy report on the epidemic of measles among school children to the St. Helen's health committee. He stated that the history of measles during the last 30 years in St. Helen's showed that the disease had been almost constantly present, breaking out in epidemics of greater or less severity every two or three years. The epidemics exhibited themselves in two forms, a major and a minor variety. In the major epidemics the disease had appeared in the earlier part of the year and assumed a more virulent type than in the minor ones, which contributed less to the death-rate. The disease was spread by personal contact with the sufferer, particularly in the early stage of the illness, the infection then being apparently given off by the discharges from the throat, nose, and lungs. The actual cause of the disease had not so far been discovered. Measles appeared to be spread to a of great uneasiness might very possibly be caused in the city from the fact that a sanatorium for tuberculosis was constructed upon one of the sources of the water-supply." This decision of the Local Government Board was received with great satisfaction by the citizens of Cork generally because, apart from danger altogether, they strenuously objected to the disgusting idea of being called on to drink water which had received the dejecta and sputum of consumptives.

April 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Abortion.

AT a recent meeting of the Obstetrical Society an important discussion was commenced upon abortion, more especially the criminal variety. M. Boissard, the first speaker, gave an account of cases of abortion which had come under his care in his wards at the Tenon Hospital. He stated that the number of criminal abortions was constantly increasing and that in a very disquieting fashion. He admitted that—in the absence of a direct history from the patient, which, of course, was difficult to obtain—the abortion had been criminally brought about; that he relied for diagnosis of criminal intent upon a rise in the temperature and signs of infection. Spontaneous abortion is not, as a rule, due to infection and does not give the above-mentioned symptoms. For treatment he advised active measures and immediate curetting. M. Tissier also spoke of the increase in the number of abortions and blamed the light view which was taken of the practice by the magistrates and the general laxity of morality which was encouraged by certain modern views according to which limitation of families was not a crime. Among the higher classes, he said, women had no shame in avowing that they had had abortion procured, as if it were quite the natural thing to do. The class which made up hospital patients was, however, much more reticent. M. Tissier thought that the society should organise a strong protest against such practices. M. Blondel agreed with the two former speakers. He added that the airy way in which abortion was looked upon in Paris made foreigners think that it was permitted in France. For his own part he had every year to send away from his consulting-rooms sundry English women, both married and unmarried, who had crossed the Channel simply to have abortion brought on, and who in some cases had the impertinence to allege that they had been sent by their medical attendants.

Congress of Medical Practitioners.

A congress of medical practitioners was held at Paris from April 12th to 14th. 14,000 medical practitioners had sent in their names as approving of the objects of the congress. 100 medical societies, some of them having many thousands of members, such as the Association des Médecins de France, the Union des Syndicats Médicaux, and the Concours Médical, had subscribed to the funds of the congress. Many members of the Faculty of Medicine and of the Academy of Medicine took part in the discussions upon the question of the reform of medical education, and the press in general has treated the congress as a remarkable event which will be a landmark in the history of French medicine. The opening discussion dealt with medical education and it was pointed out that many reforms might be made in the education given at hospitals. The hours of visits and of lectures in the wards of a hospital should be so arranged (*échelonnées*) that the student could attend several during one term. The State faculties of medicine should be able to apply to private cliniques for clinical material as is the custom in provincial schools. The income of the various medical faculties is extremely small. It is some 20,000,000 francs inferior to that of Germany and the State ought to be applied to for subsidies. The number of professors is not sufficient for the number of pupils and the congress adopted unanimously a resolution stating that the hospital should be the centre of instruction from the point of view of clinical medicine and therapeutics. As to reforms of teaching in the faculties the general view taken was that these faculties would honour themselves by engaging well-known personalities for their various posts and for their educational work. The mode of supplying professors was variously looked upon, some demanding the institution of *privat-docenten* as in Germany and adding that this plan could perfectly co-exist with the present state of matters. The question of the reform of the *concours de l'agrégation* was lightly touched upon. Other questions debated were that of payment of a professor by his pupils and that of absolute freedom of choice being allowed to every member of a friendly society to choose his own medical man and his own druggist. Another question debated was that of vacation classes and post-graduate courses of lectures (*l'enseignement complémentaire*). Finally, the congress demanded a weekly day of rest for medical men or else the fixing of a tariff which would make it legitimate for double fees to be charged for Sunday work. An enormous quantity of questions were debated more or less fully, and if many of them have not found a solution it can nevertheless be stated that this first meeting of medical men has been of great use in the debating of such questions and also shows that they occupy the attention of very many medical men. It is probable that at the next meeting the matters will have ripened and that very likely some practical solutions will be arrived at.

Constipation and Hypothyroidia.

At the meeting of the Biological Society held on April 13th M. Lévi and M. H. de Rothschild communicated a paper in which they stated that they had treated sundry cases of constipation by thyroid medication. The youngest case was aged three and a half years and the oldest 63 years. All the patients showed symptoms of hypothyroidia, such as migraine and chronic rheumatoid arthritis.

Typhoid Fever caused by Oysters.

At the March meeting of the Biological Society M. Netter reported a series of cases of typhoid fever in which the evidence of the disease having been caused by oysters is quite irrefutable; the facts were communicated to him by Dr. Villanex. Two families living at a distance of two kilometres apart divided a basket of oysters from the Olonne beds; these were eaten by both families at their *déjeuners*. The oysters were fresh, in fine condition, and were pronounced excellent. In the first family there were 11 persons, of whom six partook of the oysters; in the second nine, of whom five ate them. Of the 11 persons who had eaten them ten became ill (i.e., 91 per cent.) and four developed typhoid fever (i.e., 36·4 per cent.); there was one death (i.e., 10 per cent.). None of the other nine persons who did not eat any oysters became ill.

April 29th.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

Death after a Tracheal Operation in which Cocaine was Used.

AT the last meeting of the Danish Oto-Laryngological Association Professor E. Schmiegelow communicated a note on a case in which he had removed a grain of maize from the right bronchus of a girl, four years of age, by means of Killian's superior tracheoscopy. The foreign body had been in the bronchus for about eight days, when the little patient came under Professor Schmiegelow's care. It could be easily seen after the administration of chloroform but the extraction proved very difficult, partly because no suitable hooks were available for use. More than an hour elapsed before the attempts were successful, and it was necessary to apply between five and six cubic centimetres of a 10 per cent. solution of cocaine chloride to the mucous membrane of the respiratory tract. Soon after awakening from the anæsthesia the patient became very restless and shortly afterwards convulsions set in. Some hours later she died from what Professor Schmiegelow did not hesitate to diagnose as acute cocaine poisoning. Dr. P. Jetens Hald called attention to the cases of death from acute cocaine poisoning observed up to now in patients who had undergone tracheo-bronchoscopy. There were at least three deaths on record, two in America and one in Switzerland.

A New Operation for the Removal of the Urinary Bladder.

At a recent meeting of the Medical Society of Copenhagen Professor Thorkild Rovsing read a paper on an improved operation for the complete extirpation of the urinary bladder. There were great disadvantages connected with the older methods, especially because the way in which the ureters the University. After this ceremony the new laboratories were inspected and declared open. These buildings—one housing the departments of physiology, forensic medicine, and materia medica, and the other the department of natural philosophy—have been in the course of erection for several years. It is interesting to note in this connexion that it is exactly 60 years since Lord Kelvin, in a cellar of the old college, inaugurated the first physical laboratory for students in Europe. Afterwards luncheon was served in the large natural philosophy laboratory which had been specially prepared and decorated for the occasion. The scene at the laying of the foundation stone of the Royal Infirmary next day was no less brilliant. It will be recollected that the infirmary erected in 1791 was found to have become out of date in all important respects and it was resolved to rebuild it entirely and to dedicate it as a memorial to Her late Majesty Queen Victoria. It was the foundation stone of the first block under this new scheme which was laid on Wednesday. In laying the stone the Prince made a graceful reference to Lord Lister whose early work in antisepsis was carried out in this infirmary and whose eightieth birthday has just been celebrated. Before leaving the infirmary the Prince handed £100 to the chairman of directors for the reconstruction scheme. Both at the University and the infirmary much gratification was caused by the evident and sympathetic interest of their Royal Highnesses.

Aberdeen Royal Infirmary.

The staff of resident medical officers at the Aberdeen Royal Infirmary has now been increased from four to six. According to the old arrangement each medical officer had charge of a medical and a surgical ward. It is now proposed to give each resident charge for six months of a surgical ward and for another six months of a medical ward. The newly-appointed residents are Dr. N. S. Gilchrist, Dr. G. Mitchell, and Dr. A. T. Pirie, while Dr. J. Raffan, one of the retiring residents, has been appointed for a further period of four months.

Cerebro-spinal Fever.

The outbreak of this fever in Aberdeenshire has now, to all appearance, been checked. In all there have been six deaths. Only one case has been notified in the city.

Diseases of the Eye in School Children.

In connexion with the serious epidemic of conjunctivitis and trachoma among the children attending the board schools in Aberdeen during the past winter a deputation from the directors of the Ophthalmic Institute had an interview during the past week with the members of the administrative committee of the school board. It was pointed out by the deputation that owing to the serious epidemic much additional work and expense had been thrown upon the institution, the cases having run into many hundreds. The board considered that but for the voluntary offices rendered by the institution it would have been necessary to appoint a medical officer of its own, and it therefore agreed to give a grant of £40 to the institute.

Medical Questions at the Trades Congress.

At the Scottish Trades Congress held in Aberdeen, a motion by one of the Aberdeen representatives—

> That this Congress is of opinion that the law in regard to the question of vaccination should be the same in Scotland as it is in England, that the conscience clause should be or ought to be as essential to a Scotchman as it is to an Englishman—

was carried by a large majority. At the same Congress Mr. Hendry Brechin moved:—

> at in the opinion of this Congress the Education (Scotland) Acts should be amended so as to make it compulsory on school boards to provide for the medical examination of all children on entering school, and periodically throughout their school life; and to give powers to school boards to provide medical appliances for the correction of physical defects where necessary.

The motion was unanimously adopted.

April 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Anatomical Teaching in Dublin.

A RESOLUTION was recently adopted by the North Dublin union which with other provisions directed that notices should be posted in all the wards and corridors warning the inmates that if they did not give specific directions to the contrary their bodies—if they died—would be sent to the schools of anatomy. This resolution has caused much trouble in the anatomical and surgical schools. Dr. J. C. McWalter, who is a guardian, said that it would be a cruel and disgraceful thing to frighten poor people coming into the union by drawing their attention to the matter. Dr. A. Fraser, professor of anatomy at the Royal College of Surgeons, has addressed the following letter to the board of guardians:—

> SIR,—I am directed by the anatomical committee, which represents the Medical School of the Catholic University, the Medical School of Trinity College, and the Medical School of the Royal College of Surgeons in Ireland, to draw the attention of your board to the very serious consequences which will inevitably follow from the stringent application of the motion which they passed on the 17th inst. These consequences, the results of which cannot be foreseen, may be briefly summarised as follows: (1) The absolute ruin of the three Dublin medical schools; (2) thus depriving young Irishmen of obtaining a medical education in the capital city of their own country; (3) the disastrous effects on the city generally from the enforced banishment of the young Irishmen who intend to follow a medical career. The representatives of the three medical schools are confident that the necessity on their part of forwarding this letter would never have arisen had the guardians been aware of the consequences of the passing of their motion, and they venture to express the hope that the guardians may be kind enough to reconsider their decision. Should it be thought necessary the committee will gladly forward a printed statement to each of the guardians, or a deputation can be arranged to wait upon them, and afford them any further information they may require.

Cerebro-spinal Fever in Belfast.

At a meeting of the public health committee held on April 24th it was reported that for the week ending April 20th the death-rate from all causes had been 23·9 per 1000. 36 cases of cerebro-spinal fever had been notified during the week, as compared with 24 in the previous week. Altogether, up to April 24th 337 cases have been reported in Belfast with 227 deaths. Of the 107 patients in Purdysburn fever hospital up to April 24th, 43 were suffering from cerebro-spinal meningitis, and ten out of 12 deaths occurring during the week in that institution were caused by that disease. Since the 24th up to to-day (April 30th) six more cases of cerebro-spinal fever have been admitted to Purdysburn city hospital.

Bangor Cottage Hospital.

A committee appointed at a public meeting held in Bangor, county Down, on April 22nd to confer with Lady Clanmorris regarding the carrying on of the work of the hospital in that town, has handed in its report, and at a public meeting called on April 24th it was decided to take over the Cottage Hospital with equipment as from June 1st next and to do all things necessary for administering the affairs of the institution, including the appointment of officers, board of management, and committee. Further, it was agreed that the committee should act on behalf of the town and district in regard to providing a new hospital suitable to the needs of Bangor and the neighbourhood.

The Belfast Health Commission.

The sittings of the Belfast Health Commission were resumed on April 25th and since that day evidence has been taken among others from the following in reference to the water-supply of Belfast: Professor J. L. Smith, Professor W. St. C. Symmers, and Mr. L. L. Macassey, C.E., consulting engineer to the Belfast water commissioners.

The Proposed Sanatorium for Cork Consumptives.

The Local Government Board has given its decision with regard to the application of the Cork conjoint hospital board for permission to erect a sanatorium at Myshall. It will be recollected that the proposed site is on the bank of the Tullig river, which is a tributary of the Lee, from which the citizens of Cork derive their water-supply. At the inquiry held last February it was pointed out that patients would be likely to expectorate into the river and that the disease might in that way be communicated to the inhabitants of Cork. Furthermore, it was contended that no matter what steps would be taken to purify the sewage its conveyance into the river would be a constant menace to public health. Further expert opinion has now been taken with regard to sewage disposal and the possibility of tubercle bacilli surviving sufficiently long in the water to prove a danger to Cork but no unanimous views were arrived at. In the course of giving its decision the Local Government Board stated that it "does not, however, consider that it would be warranted in making a Provisional Order in view of the very strong opposition of the citizens of Cork as put forward by their elective representatives, and while, as already stated, it thinks that the prospect of contamination of the water-supply is very remote, it realises that a feeling

January when the thermometer registered 26° Centigrade below zero. These cases, it is gratifying to add, responded well to treatment and were "sent on their way rejoicing."

April 28th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Experiments on the Prevention of Cerebro-spinal Meningitis.

THE epidemic of cerebro-spinal meningitis still continues on a small scale, but active and, as it is believed, sufficient measures have been instituted for its suppression by the recent regulations of the sanitary department. When a case has been notified all the members of the household are subjected to a procedure which, according to the experiments of Dr. Jehle, can be relied on for destroying the diplococcus meningitidis which is the special organism of the disease. The procedure consists in spraying a liquid containing "pyocyanase," a preparation of the bacillus pyocyaneus, into the naso-pharynx of the patient. It has been found that the number and the virulence of the diplococci obtained from infected nasal discharge were diminished by 50 per cent. within 24 hours after the application of the pyocyanase and that all the diplococci disappeared in from 48 to 60 hours. The same treatment has been recommended by the Government officials in the country hospitals and disinfection of all wearing apparel, bedding, and dwelling houses is done free of charge by the various municipal authorities. The number of cases reported since Jan. 1st is 112, with a mortality of 16 per cent., in spite of all modern means of treatment. In order not to increase the alarm felt by the public in regard to this disease the reports are not published in the newspapers.

Adulteration of Food.

The monthly report of the health officer of Vienna deals this time with some criminal proceedings instituted against certain "honest peasants" for adulterating food with substances injurious to the health of the consumer. Milk is one of the articles which is subjected very often to such treatment. In seven cases considerable quantities of milk from a large dairy were found to contain such additional ingredients as starch (in quantities varying from 5 to 12 per cent.) or even chalk. In a few other instances in which the milk contained numerous germs and micro-organisms the discovery was made that it was "augmented" with water from a certain spring supposed to be very beneficial on account of its composition, and bacteriological examination of the water from that spring showed the presence of numbers of micro-organisms. Meat was painted with rosanilin to give it a better appearance, and fresh-water fish, used here especially just before Easter, were treated by injections of air into the tissues to make them look plump. Sweetmeats were found in several instances coloured with anilin dyes and pigments containing lead. Cocoa powder and red pepper were adulterated with brick-dust, while flour and sago were frequently mixed with fine white sand to increase the weight. The strict supervision of the daily market for provisions has been in operation for only a few years but the results have been very satisfactory as regards the purity of the articles of food supplied to the inhabitants of the city.

A Displaced Tooth in the Nasal Cavity causing Fœtid Vomiting.

An unusual case of great diagnostic and anatomical interest was shown by Dr. Glas at one of the recent meetings of the Vienna Medical Society. The patient was a lad, 19 years of age, who when a child had once fallen violently on his nose. He complained of very fœtid eructation with occasional vomiting of green, foul smelling masses. The examination of the sputum, fæces, and a test breakfast gave no clue to the cause of this. In the nose, however, a curious condition of things was found. Between the left lower and the middle turbinated bone and the septum there were greenish-yellow, gangrenous, fœtid, friable masses, which indicated the presence of either a foreign body or an ulcerating neoplasm. After considerable difficulty and much bleeding a hard body was found and removed. This proved to be a canine tooth, which undoubtedly had been pressed into the nasal cavity by the fall already mentioned. The examination of the teeth of the patient showed the absence of the canine tooth, no interval existing between the first premolar and the lateral incisor of the left side. After removal of the rhinolith the fœtid vomiting ceased at once. The case is a great rarity, only two similar instances of displaced teeth forming rhinoliths having been recorded hitherto. In this patient the vomiting of the green masses was so difficult to explain that serious abdominal disease was suspected.

A New Hospital for Lupus.

The plans of a new hospital for lupus were a few days ago approved by the Minister of the Interior and the building will be finished in a short time The present hospital for lupus, which has only 12 beds and four Finsen lamps, has for some time been unable to provide accommodation for the numerous patients who come from all parts of the empire seeking admission. The new hospital will have accommodation for 90 in-patients, a large out-patient room, 20 Finsen lamps and x ray apparatus, a surgical department, a research laboratory, and a pavilion with 40 rooms for the reception of out-patients who do not require to keep their beds but who on account of their disease are debarred from walking in the streets or public gardens. This "home," or "refuge" as it is called, will be connected with the large garden of the hospital so that the residents in the home will be able to obtain recreation and fresh air without mixing with other people. The expenses of this hospital for lupus are defrayed partly by the State and partly by voluntary contributions.

Health of Vienna.

A recent weekly report of the Board of Health shows an enormous increase of the infectious diseases, which have reached a level hitherto unattained since regular records were instituted. Measles and its complications were responsible for 68 deaths, whilst 312 new cases were notified. Scarlet fever was fatal in seven instances, whilst 73 new cases were reported. Typhoid fever and croup were each fatal in six cases. The general mortality was 21 per 1000, or 20 per cent. more than the yearly average. Not a single case of cholera, dysentery, or small-pox has been recognised during the last eight weeks. Pulmonary tuberculosis carried off 143 patients and neoplasms caused 63 deaths in one week. A sudden rise in the number of cases of erysipelas was noted but could not be traced to a definite cause; 37 fresh cases distributed throughout all parts of the city were reported and three of these were fatal. Pertussis was prevalent in the southern parts of the city, where 63 cases, with a mortality of 5 per cent., were reported. A comparison of the vital statistics for March with those for the corresponding weeks of the last five years is unfavourable for the present year, the morbidity being higher by 50 per cent. and the mortality by 25 per cent. Climatic reasons have been made use of to explain the facts. The barometric pressure has been low for many weeks and the amount of bright sunshine during April was so much less than in March that the virulence of the bacteria is supposed to be increased by these atmospheric conditions. Another very remarkable fact is the diminished incidence of cerebral hæmorrhage. It is pointed out in the report that the figure is extremely low, but no attempt is made to draw conclusions from the fact.

April 27th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Annual Report of the Budapest City Hospitals.

AMONG the varied contents of this highly interesting and scientifically compiled huge volume, I think that the following data are worthy of being brought to the notice of the English-reading medical public: 1. The results of serum therapeutics in the St. Ladislaus Hospital. Antidiphtheritic serum was applied in 494 cases. The percentage of recoveries was different in different months of the year and it seemed that it was the laryngeal complications which chiefly influenced the recovery-rate. Amongst all cases (494) there were 163 attended with laryngeal complications (i.e., 31 per cent.), and of the patients 47 (or 9 5 per cent.) died and 447 (or 90 5 per cent.) recovered. It is noteworthy that the author (Dr. Sigmund Gerlóczy, director of the hospital) states that the results would have been still better if were disposed of was anything but satisfactory. Whether the ureters were left in the wound produced by the operation or were implanted into the rectum, the result was in either event very often disastrous, because both methods almost necessarily led to ascending infection of the kidneys, the first method also very often causing cicatricial stricture of the ureteral orifices, with subsequent hydronephrosis. The chief original feature of Professor Rovsing's operation was the way in which he avoided the above-mentioned dangers. After the complete extirpation of the bladder he frees the ureters entirely by dissection for a long distance and he then makes a buttonhole-like opening in either lumbar region, extending from the peritoneal cavity to the skin of the back. Through this slit the ureter of the corresponding side is pulled out so far that the mucous membrane of its outlet can be sutured to the skin in the lumbar region surrounding the slit. Stricture of the ureteral outlets is thereby avoided. In order to collect the urine trickling out from the ureters a specially constructed silver vessel is applied in either lumbar region round the ureteral openings, and from these vessels the urine flows down through indiarubber tubes to a portable urinal of the ordinary sort. This appliance has proved satisfactory as a means of escape for the urine and the patient has been entirely free from any urinous smell. Dr. Niels P. Ernst suggested a possible improvement in the operation. He asked if it would not be well to pull the ureters out through the buttonhole for a distance of about one inch or so and then to encircle them with a flap of the surrounding skin, so that a penis-like prominence was created in either lumbar region on the top of which prominence the ureter had its outlet. He thought that it would be easier in this way to make sure in all cases of the sufficiency of the silver vessel than when this latter had to be applied to a level or perhaps even a hollow surface

The Royal Frederic Hospital.

On March 30th at the Royal Frederic Hospital the 150th anniversary of its foundation was celebrated. As this hospital has been connected with the University of Copenhagen for the last 100 years or more for the clinical instruction of the students it plays a prominent part in the recollection of all Danish practitioners. When first established it was certainly better than most European hospitals of that time, but it is not in accordance with modern ideas, and the addresses delivered at the festival did not express deep sorrow at the prospect that the venerable institution would soon exist only in memory. In a few years the University will possess a model hospital that is now being built in the north of the city at considerable expense. This new hospital is nearly on the same system as the Virchow-Krankenhaus in Berlin. It will take the name of Rigshospitalet (the State's Hospital), so that even the name of the Royal Frederic Hospital will disappear.

The Royal Board of Health.

Considerable sensation has been created by the somewhat abrupt manner in which the Royal Board of Health has come to an end after having carried out its important task for more than a century. The board has till now been the highest authority on all hygienic, medico-legal, and medico-political questions. Nine of our most prominent medical men and two apothecaries were nominated by the King as members of the board, an office that was entirely honorary and not endowed with any salary whatever. All difficult medico-forensic questions were referred to the board and it had the supervision of the professional conduct of all Danish practitioners and apothecaries, the superintendence of the lunatic asylums of the State, &c. Until five years ago, when the present Minister of Justice became a member of the Cabinet, the decisions of the board in questions involving expert opinion were always accepted by the Minister of Justice, under whom our whole medical system is placed. But in the course of the last five years the board had been insulted over and over again, the Minister either neglecting to ask for its opinion on important questions of medical interest, such as the legislative enactments dealing with tuberculosis and prostitution, or else acting contrary to its advice. As the members were nominated directly by the King they complained to him of the Minister in December, 1906. The Minister's reply was a sarcastic speech in Parliament. The members of the board then expressed an intention of resigning, but the Minister answered that the board could not be allowed to retire from office unless it could secure successors willing to take the places which would become vacant. This last insolence finally proved too much and not long ago the members resigned in a body, disregarding the Minister's threat that he would call them to account for their illegal behaviour. It has been impossible for the Minister to find medical men willing to serve on a new board and he has been obliged to acknowledge his defeat by nominating a "homo novus" as medical adviser to the Government.

April 27th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

"La Croce Verde."

"THE Green Cross" is an offshoot of the Red Cross and in the great Italian centres is already justifying its inception and organisation by prompt and effective work. Both associations, indeed, have their prototype in the "Misericordia"—a purely Tuscan institution enlisting in its humane service every member of society, high and low, rich and poor. With the growth of population and the increasing complexity of life, however, the "Misericordia" has proved, even in its limited area (Florence, Pisa, Leghorn, Lucca, Siena, and Arezzo, to mention its chief centres in Tuscany), inadequate to the calls upon it, and so we have of late years witnessed the Red Cross going outside its professed military scope and now the Green Cross supplementing it in turn. In Milan this latter has been organised with special forethought and efficiency, thanks to medical sympathy and coöperation, and its *personnel*, recruited mainly from the young of both sexes of the humbler class, is—again thanks to medical inspiration and support—trained to the work by systematic instruction in "first-aid" service of every kind. Philanthropic physicians and surgeons give evening lessons in rudimentary anatomy and surgery and in what may be called the "clinique of the pavement" or the "therapeutics of the thoroughfare," so that in cases of accident or sudden lesion (all too common in the seething centres) the patient is intelligently dealt with and transported with the least possible delay to the dispensary or hospital. The interest taken in the work by the shop girl or the factory hand is at once gratifying and reassuring—gratifying as showing the reserve fund of good latent in the class so often prolific of the "hooligan," and reassuring for its demonstration of a remedy for that characteristic development of overcrowded cities. In truth, the "hooligan," or his Italian equivalent the "teppista," is as often as not the outcome of sheer animal spirits chafing under restriction and only requiring an outlet for the energy he revels in to become an agent of good instead of evil. This fact, borne in upon the organisers of the Italian "Green Cross" by daily experience, has an interest of its own for the social reformer and may yet inspire other efforts for the humanising of the modern counterpart of that "London 'prentice" immortalised in Scott's "Fortunes of Nigel." If, according to Lord Palmerston, "dirt is only good matter in the wrong place," the "teppista" may be regarded as good energy only misapplied, and, as the report of the Milanese "Croce Verde" shows us, may be brought to reinforce the army of order through discipline in the service of hygiene, physical and moral.

Winter on the Great St. Bernard.

The hospice still in requisition on this historic mountain has had to contend with exceptional difficulties during the past winter. Even 10 days ago (April 18th) a correspondent tells me that the ground adjacent to the hospice was still under four metres of snow—in some places as many as five metres. The quantity of the snow which has fallen from November to April as measured by the pluviometer amounted to nine metres on the Swiss side but to much less on the Italian. This severe weather notwithstanding, the number of wayfarers and working men who have sought and obtained shelter at the hospice has during the past six months been from 1200 to 1300, many of these cases demanding prompt and energetic restorative effort on the part of the monks. Thanks, however, to the experience, the skill, and the resources of these good men, no case of death occurred among those rescued or among the relief parties themselves. All the same, many of the "arrivals" at the hospice were found suffering from frost-bite of the hands and feet, principally in the month of lovers of the beautiful, but after some years of consideration it has now been decided that the present scheme is an absolute need for the well-being of Egypt and that the same benefits cannot be obtained in any other way. Sentiment must give way to practical utility and we must remain content with the knowledge that the antiquities of the island of Philæ, which owe their chief reputation not to archæological value but to the beauty of their picturesque surroundings, have been, at a cost of several thousand pounds, so consolidated by underpinning their foundations and carrying everywhere the masonry down to the solid rock that they are, though submerged, in a more stable condition than at any time of their past history and far safer even than the majority of the monuments in other parts of Egypt. It cannot, however, be suggested that the annual flood will have a beneficial effect upon their inscriptions except that it will wash away the deleterious salts which are ruining the stone work. Ample time is now afforded for the careful copying and recording of any inscriptions which may in future be inaccessible to the winter visitor to Egypt.

April 29th

CANADA.

(FROM OUR OWN CORRESPONDENT.)

McGill University: Medical Buildings Burned.

A FEW weeks ago the fine engineering building of McGill University, Montreal, was completely destroyed by fire. It had only been built some 13 years, and had been presented to the University by Sir William Macdonald, the millionaire tobacco manufacturer of that city. Now the ravages of fire have again visited the university, and this time the medical building has been destroyed. April 16th was the day of the conflagration. Amongst those who have suffered severe personal loss are Dr. F. J. Shepherd, Professor J. G. Adami, and Professor Ruttan. All of the first's anatomical materials are gone; Professor Adami has lost his valuable library which he kept in the building for the benefit of the students. At first it was thought that the manuscript of a new work on pathology, which he has been preparing for years, was also burnt but this has been saved. Many valuable pathological specimens, including the finest collection of calculi in America, have been destroyed, as well as the collection of brains made by Professor W. Osler when he was pathologist at the Montreal General Hospital. Professor Ruttan has also lost his library and all his chemical apparatus. The Medical Faculty of McGill University was the direct outcome of the old Montreal Medical Institution, which was organised as a medical school in 1823. In 1829 this Medical Institution was merged into the Medical Faculty of McGill University. The first university degree was a medical one and was conferred in 1833. During the Canadian Rebellion of 1836-39 there were no sessions held, which accounts for the fact that the present is the seventy-fifth session. In 1844 the number of students in the Medical Faculty was 50; in 1851, 64, with 15 graduates; in 1892-93, 315, with 46 graduates; in 1902 440 medical students were registered; and since that date the number annually has been about the same. In 1893 Lord Strathcona endowed the chairs of pathology and public health with $100,000. In 1899 Lord Strathcona again gave the Faculty $100,000 for extending and developing the laboratories, and a still further donation of $50,000 in 1904. The main building had been erected in 1873. In 1885 and again in 1893 large additions were made to it. It stood four storeys high except in the front block. Its total length was 290 feet and its width 145 feet. The belief is growing that the fire is of incendiary origin and an investigation is now proceeding.

Medical Inspection of Schools in Montreal.

Dr. J. E. Laberge, the health officer of Montreal, has prepared a report which shows that 20,000 school children are affected with divers ailments in that city. The report is the outcome of the system of medical inspection of schools which has been carried on in Montreal for the six months ending March 31st, when inspection was stopped owing to lack of funds to pay the medical men engaged in the work. The report shows that the inspection is urgently required, that 1400 children are suffering from inflammation of glands of the neck, that 1022 have defective eyesight, that 9478 have defective teeth, that 2453 have enlarged tonsils, and that 1572 had vermin. So far as infectious diseases were concerned, that part of the work which probably appeals to parents more than anything else, five cases of diphtheria were found attending school, four of scarlet fever, 26 of measles, 19 of whooping-cough, five of mumps, and five of chicken-pox. Then there were found of contagious skin diseases 46 cases of itch, 27 of impetigo, and 97 of ringworm; whilst 30 children had St. Vitus's dance, 104 had heart troubles, and 89 had lung troubles. The report is also interesting as regards the situation, ventilation, &c., of the schools. There were three schools with no ventilation at all. There were three situated in a basement, one in a garret, and three were found that only had their floors washed twice a year. One school had its floors washed once per annum, and yet another only once in two years. But in the face of all this Montreal has discontinued the medical inspection of schools.

Cremation in Montreal.

The secretary's report read at the third annual meeting of the Crematorium, Limited, which was held recently in Montreal, gives some interesting figures of the growth of cremation in that city. Outside Montreal cremation is not practised in any part of Canada. From the commencement of operations in 1904 to April 2nd, 1906, there had been 33 cremations, to which are to be added for the year ending Feb. 28th, 1907, 19. Including the cremations performed under the charter of the Mount Royal Cemetery Company prior to the establishment of the crematorium, which numbered 12, there have been all told 64 cremations in Canada. It is said that in comparison with other cities outside Canada where cremation is carried on it is progressing favourably in Montreal.

The Death of Dr. William Henry Drummond, Montreal.

By the death of Dr. W. H. Drummond Canada has lost one of her distinguished sons. Going to Cobalt, Ontario, the great silver mining centre of Canada, a few days before he died to investigate a reported epidemic of small-pox in his mining camp (his brother and he owned the Drummond Mine) he was stricken with paralysis, and although skilful friends in the medical profession in Montreal hurried away to his bedside he died on April 7th and was buried in Montreal. The late Dr. Drummond was a big, strong, athletic man, having been at one time champion three-mile runner of Canada, a good shot-putter, and an all-round athlete. He was born in Leitrim, Ireland, and was 52 years of age at his demise. A graduate of Bishop's College, Montreal, he rose to be professor of medical jurisprudence in his *alma mater*; he was at one time editor of the *Canada Medical Record*, now merged with the *Montreal Medical Journal*; but chiefly he became famous through his poems of French-Canadian farm-life, timbering, and boating. "The Habitant," "Johnny Corteau," "The Wreck of the *Julie Plante*," and "Old Dr. Fiset" will live in the history of this young country.

Toronto, April 19th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The "Thaw Murder Trial."

FOR 12 weeks this community has been intensely disturbed by the various phases which this noted trial has assumed. To the medical profession it has had an especial interest owing to the large number of experts in insanity who were called on either side to determine the mental condition of the prisoner, not only at the time of the murder on June 17th, 1906, but at the time of the trial. With the citizens at large the interest centred in the character of the murderer and his victim, the former being the son of a lady of great wealth, and the latter one of the foremost architects of the country. The murder was committed at a fashionable public resort in the midst of its festivities and was witnessed by hundreds. The only question at issue was the plea of the defence—insanity. That plea was based on (1) heredity; and (2) a revolting story of assault by the architect upon a girl-actress to whom the defendant proposed marriage, the story being related in all its filthy details in court precisely as she related it to the defendant as a reason for declining his offer. The defence endeavoured to prove by its medical experts, seven in number, less neglected cases had come under skilled treatment. Thus among the 47 fatal cases there were 16 patients who died within 48 hours after admission to the hospital. Among the 163 patients with laryngeal stenosis 67 were intubated, of whom 41 (62 per cent.) recovered and 26 (38 per cent.) died. As for the time of the intubated condition it averaged 74½ hours in patients suffering from pure laryngeal croup, while in diphtheritic croup it averaged 53½ hours. In one case, however, the tube was kept in the larynx for 348 hours. It is advisable to administer the serum freely and as soon as possible after the onset of the illness. Thus several times there were injected from 10,000 to 14,000 immunity units in the case of children of one or two years of age. 2. Faulty or doubtful diagnoses in connexion with acute infective diseases. The correct and rapid diagnosis of acute infective diseases is important not only from the point of view of recovery but also from the social hygienic standpoint, in order to render isolation and the carrying out of prophylactic measures possible. If, for instance, a patient is admitted to a hospital with an erroneous diagnosis of scarlet fever he or she is at once placed amid scarlatinal patients. It may happen, however, that at the physician's visit the patient is found to be suffering not from scarlet fever but from measles. It is clear that such a patient not only exposes the others to the risk of contracting measles but is also liable to be infected with scarlet fever. This circumstance induced Dr. Gerlóczy to provide observation wards for all cases of infective disease where the patient is kept for 24 hours and after being thoroughly examined is ultimately sent to the proper ward. The frequency of erroneous diagnoses is shown by the fact that during the last two years the following cases were sent in as scarlet fever: 43 cases of angina, 13 of rubeola, 11 of eczema, eight of gastric catarrh, six of measles, six of erythema multiforme, six of erythema toxicum, four of urticaria, four of sudamina, three of stomatitis ulcerosa, three of bronchitis, three of croupous pneumonia, one each of lymphadenitis colli, erysipelas, syphilis, influenza, and pleurisy, and 16 persons not suffering from any illness. The following cases were sent with a diagnosis of measles: 22 of rubeola, eight of urticaria, six of tonsillitis, four of erythema multiforme, three of dyspepsia, three of pityriasis rosea, two of syphilis, and one each of sudamina, scarlet fever, bronchitis, eczema, erythema nodosum, and conjunctivitis phlyctenulosa; one person in good health was also sent. Other mistakes in diagnosis occurred in connexion with cases of diphtheria, diphtheritic croup, pertussis, varicella, modified small-pox, rubeola, epidemic cerebro-spinal meningitis, dysentery, and typhoid fever.

April 27th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Gratuitous Treatment by Municipal Accoucheurs.

IT has been decided to appoint accoucheurs for each municipal district whose duty it will be to render gratuitous treatment to poor women in confinement. These accoucheurs will be chosen by the authorities of the medical faculty of the Haidar-Pasha School of Medicine. Care will be taken to select skilful men and a medical inspector will be appointed to see that they conscientiously fulfil their obligations.

Exanthematous Diseases.

All the schools in the suburb of Haskeuy on the left bank of the Golden Horn have been closed this week because of an outbreak of scarlet fever. The necessary measures for checking the epidemic have been taken, but several deaths from the disease have occurred.—From Smyrna I hear that small-pox is spreading in rather alarming proportions. Two causes account for this state of affairs. Firstly, the population, being ignorant of the advantages of vaccination, will not take their children to the public vaccinators; and, secondly, the latter themselves do not attach much importance to the vaccination laws and neglect their duties. The sanitary inspector of the vilayet of Smyrna has sent to Constantinople a memorandum urging the taking of immediate steps to enforce the vaccination laws throughout the whole province and the sending weekly of at least 300 tubes of calf lymph. It is intended to create a vaccination institute in Smyrna.

The Practices in the Slaughter-houses.

Up to now there has existed in the metropolis a practice of killing animals in the slaughter-houses by night, with the result that the municipal veterinary surgeons were not present and so the state of health of the animals was not ascertained. The Superior Council of Hygiene has issued an order approved by Réchid Pasha, the prefect of Constantinople, enjoining that in future all slaughtering of animals is to take place during the day only. Any contravention will be severely punished. The butchers will now, it is earnestly hoped, not be able to sell to the public the meat of diseased or tuberculous animals.

Notes.

Aidin is to be provided with canalisation works to enable the population of that town to have good drinkable water. The expenses will amount to 15,000 Turkish liras, which sum it is intended to raise by a surtax of 10 paras (a halfpenny) on each quintal of goods imported and exported.—Mme. Takvor Pasha, the sister of the late Dr. Khorassandjian, has offered 12,000 Turkish liras to the Armenian Hospital of Constantinople.

April 26th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Water-supply of Egypt.

Lord Cromer's annual report was dealt with recently in THE LANCET.[1] A postscript in the form of another Blue-book relates to the water-supply of Egypt. The huge dam at Assouan has been a profound success, and by holding up water in the winter months has enabled much new land in Lower Egypt to be brought under cultivation and has caused a considerable rise in the cotton crop, the value of which was estimated last year at £23,000,000. But the reservoir only supplies about one quarter of the water which is necessary for Egypt and the agriculturists have for a long time been demanding a further instalment. After mature deliberation the Egyptian Government has decided that none of the sites proposed for the building of the new dam is so suitable as the existing reservoir at the cataract of Assouan. It has therefore been decided to raise the existing dam some 23 feet at a cost of about £1,500,000. This is obviously a justifiable expense, for it will enable nearly 1,000,000 acres of land to be brought under cultivation and the value of the cotton crop alone in the area reclaimed will amount, it is calculated, to from £3,500,000 to £4,000,000. The work will take some five years and in the meantime the officials of the Irrigation Department will be able to decide what steps shall next be taken to store the waters of the Nile. Everyone agrees that it will be necessary, sooner or later, to prevent the present waste of water in the marshes south of Khartoum so as to insure an increased supply for the Soudan during the months of low Nile. It is still considered that it will be best in the future to devote the waters of the Blue Nile to the needs of the Soudan and those of the White Nile to the irrigation of Egypt. By raising the dam, as now decided, the storage of nearly two and a half times the present quantity of water in the reservoir becomes a simple engineering problem. It must be remembered that, although there is a modern water-supply for two or three of the largest towns, the rest of the inhabitants of Egypt drink water which is directly and daily drawn from the Nile or the canals which are its artificial tributaries. Everything, therefore, which is done to promote the volume of the water and the velocity of its flow helps to insure a purer drinking-supply during the time of low Nile. This is important during every summer, when diarrhœa and dysentery are liable to be prevalent, especially among children, and it becomes of the highest necessity on the occasions when the health of the community is menaced by cholera.

The Island of Philæ.

The disappearance of the island of Philæ, except between the months of July and October, is necessarily a grief to all a most interesting presentation portrait of Mr. Arthur Evans the archæologist (this is to be hung in the Ashmolean Museum). Of several portraits by Mr. J. J. Shannon that of Mrs. Tekelheimer will be most admired; Mr. George Henry adds to his laurels as a painter of beautiful women and has had great opportunities in his sitters; Mr. Christopher Williams sends a good likeness of Sir John Williams; Mr. Nowell is equally successful in a grave and quiet portrait of Herr Paul David, the well-known director of music at Uppingham School (a presentation portrait from old pupils); Mr. Harold Waite in a portrait of Mr. Justin McCarthy reproduces the almost painful facial contortions of presbyopia with fidelity, but sacrifices to that fidelity the grace of the picture; Mr. William Ranken's extremely clever portrait of Mrs. Brown Potter gives the well-known actress a *chevelure* of an almost impossibly daring red; Mr. Harris Brown's portrait of Sir Andrew Noble is a vigorous and thoughtful exploit; and Mr. Sargent continues to prove that he is the really great and original portrait painter of them all. Mr. Sargent is not so sensational or audacious as he has been on some occasions, but the easy mastery with which he paints, his psychological instinct, and his uncompromising candour are as well displayed as ever.

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[1] THE LANCET, April 20th, 1907, p. 1103.

There is a notable absence of pictures telling any story or illustrating any episode of particularly medical interest. There are no sick-beds or ministering physicians and almost no nude anatomical studies. The natural colour of the healthy human being seems to be more widely recognised by the exhibitors this year, for the involuntary presentments of anæmia or jaundice, of which we have had formerly to complain, are practically absent. One painter, Mr. Sigismund Goetze, is determined to be in the van of the movement for stimulating the natural method of the feeding of infants. In a well-executed but banal allegory, entitled "Greatest of These," the central figure is a lady suckling a child of four, which is somewhat of a physiological exploit.

In the sculpture gallery there is an excellent bust by Mr. Hope Pinker of the late Sir John Burdon Sanderson.

ASYLUM REPORTS.

The Lancashire Inebriates Reformatory, Langho, near Blackburn (Third Annual Report of the Lancashire Inebriates Acts Board).—At the beginning of 1906 there were 120 persons under treatment in this institution. During the year 26 were received, seven were released on licence, one was transferred to Aylesbury State Reformatory, and 14 were discharged on expiry of sentence. Although there were many "mental defectives" none have been certified as insane during the year. Only three persons have been committed under Section 1 of the Inebriates Act, 1898. Under this section any habitual drunkard who is convicted on indictment of any offence punishable with imprisonment may be committed to a reformatory, provided that the court is satisfied from the evidence that the offence was committed under the influence of drink or that drunkenness was a contributing cause of the offence. Dr. F. A. Gill considers that neither the cost of detention to the committing authority nor lack of accommodation can be advanced as a reason for the little use made of this section. Probably the chief reason is the necessity for the indictment to higher courts—a proceeding which involves delay and extra work. Dr. Gill believes that more cases of attempted suicide might be treated under this section with good results. He states that larceny, violence to the person or property, and cruelty to children are amongst the most common crimes, and perhaps the most important of these from our point is the last. The mothers generally do well after release and the benefit to their husbands and their children is incalculable. Under Section 2 of the Inebriates Act, 1898, any habitual inebriate who commits any offence mentioned in the first schedule of the Act—e.g., being found drunk in a public place, drunk and disorderly, &c.—and who within 12 months preceding the date of commission of the offence has been convicted summarily at least three times of any of the offences so mentioned, may be sentenced to detention in a reformatory. Any person charged with an offence against this section may refuse to be dealt with summarily and may then be committed for trial on indictment. Fewer cases have been committed under this section than in the two preceding years. The inmates are chiefly employed in laundry work, needlework, wood-chopping, and farm work of all kinds. Before leaving the reformatory on the expiry of sentence every woman is offered assistance through the medium of one of the various societies which have kindly offered to help in the important work of after-care. Dr. Gill reports that with the help of the above and the police he has endeavoured to keep in touch with all cases released, and so far as he can ascertain their conduct is as follows: seven doing well, five cannot be traced, eight have relapsed, and one has been convicted of crime but not for drunkenness. With regard to the discharges, several of them throughout their sentence showed the utmost indifference to their future welfare and would probably make little or no effort to keep sober when discharged. Nine showed quite obvious symptoms of mental defect and two are chronic invalids as well. Their previous convictions recorded an average of 22·8 each. Dr. Gill states that regarding the eight discharges who relapsed, it is a pity that their sentences were only for two years, as another year might have made all the difference between a cure and a failure. In order to show the mental state of those who have been under care in the reformatory since it was opened in 1904 Dr. Gill has drawn up a table which is well worthy of consideration. He shows that 2·3 per cent. were insane, 7 6 per cent. were very defective, 50 per cent. were defective, and only 39·7 per cent. were of average mental capacity. Thus the proportion of mental defectives to the total committed to the reformatory is over 60 per cent. Dr. Gill gives the following as the mental characteristics of the habitual drunkard: (1) an absolute disregard for truth; (2) delusion of persecution; (3) a sense of rectitude; and (4) lack of self-control. The medical director concludes his report by discussing some of the various remedies for the treatment of the habitual drunkard. Repeated short terms of imprisonment he considers to be worse than useless, for in a very large proportion of the cases the individuals are mentally defective. This fact is clearly demonstrated in the report of the medical inspector under the Inebriates Act, 1898, for last year, in which he gives the percentage of mentally defective as over 62 per cent. Dr. Gill states that these figures show up the true psychology of the police-court habitual drunkard with startling vividness and should be seriously considered by all who are so ready to denounce reformatories for their apparent futility as curative institutions. He welcomes the newer treatment in reformatories as scientific, humane, and rational, for it is now possible to sift the material and thereby to give the hopeful ones a chance and to protect the more degenerate. A life of idleness is not advocated, for they ought to contribute something towards their maintenance and this is better done under supervision and discipline than as free agents. Dr. Gill considers that more might be done to prevent the manufacture of drunkards by segregating the older habitual drunkards and so withdrawing their evil influence and example from corrupting others. Mental defectives are not naturally drunkards but have acquired the evil habit as the result of environment, and the pernicious element of which is the association with other drinkers. This is shown by the fact that there are few or no cases committed to the reformatory from rural districts. Now rural districts have a proportion of mental defectives as well as towns, but they do not seem to be manufactured into inebriates as they are in towns, the chief factor in this being probably the absence of vicious environment and example. The only remedy for the majority of the feeble-minded class of habitual drunkard is permanent detention and as the law stands at present this is impossible.

EAST-END MOTHERS' LYING-IN HOME.—The report for 1906 shows that this charity continues to do excellent work; 430 women were delivered in the home and in the out-patient district 458 women were attended at their confinements. Of 833 children born alive 11 died. There were two deaths of mothers in the home and none in the district. The number of out-patients attended shows a decrease from the last report, which is attributed to the poorer women being unable to meet the fee of 2*s.* 6*d.* charged on each letter. At present the total number of beds in the home is 22 and it is desired to collect funds to increase this accommodation. The annual meeting of governors will take place on May 9th, at 4.30 P.M., at 17, Cavendish-square, London, W., by kind permission of the Earl and Countess of Bessborough.

that such a tale of cruelty inflicted upon the object of the defendant's love would so affect his unstable brain that years after he heard of the occurrence he would arm himself and deliberately kill the assailant, though the defendant himself travelled about Europe with this girl, living as man and wife, after learning of her downfall, and before they were lawfully married. While the defence aimed to prove insanity at the time of the murder it also aimed to prove that the defendant had meantime recovered and thus to prepare the way for his escaping both execution for his crime on the ground of insanity at the time the crime was committed and commitment to an asylum as a criminal afflicted with incurable insanity. The position was an exceedingly difficult one for a medical expert witness under cross-examination by an attorney as learned and resourceful as our prosecuting officer. They had abundant opportunities personally to examine the prisoner, a privilege denied to the half-dozen experts who appeared on the part of the prosecution. While the experts for the defence declared the prisoner insane when he committed the crime they refused to classify the form of insanity, but stated that he was subject to "brain storms," and the senior counsel of the defence invented the term "dementia Americana." The six experts on the part of the prosecution united in the opinion that the prisoner was suffering from paranoia and was incurable. This disagreement resulted in the appointment of a Commission in Lunacy, consisting of one physician and two lawyers, who were directed to determine whether the prisoner was insane at the time of the trial, and on its conclusion that he was sane at the time of their examination the case went to the jury, with the result that there was no agreement. This trial has proved exceedingly damaging to expert medical testimony. For three months 12 of the most prominent alienists of this country, divided into two camps of six each, have aided the attorneys of their respective sides, by private counsel and on the witness stand, in maintaining directly opposite opinions as to the mental condition of the prisoner. However honest and independent these alienists may have been in the formation of their opinions the public came to regard them as partisans, subsidised by enormous fees. To the lay mind, the adroitly evasive answers of the experts, their efforts at repartee with the attorneys, and their refusal to answer questions which would evidently impair the line of prosecution or defence, for which they were engaged, were satisfactory proofs that such testimony was not trustworthy. This public judgment of the untrustworthy character of medical expert testimony in the Thaw case strongly reinforces the growing prejudice in this country against medical expert testimony in all cases.

A New Defence in Cases of Railroad Injuries.

An interesting case was recently in the courts of the State of Texas. A woman, who was a "Christian Scientist," was injured in a railroad accident. She brought a suit against the company, alleging that she suffered severe pain as the result of the accident. The defence was that as she was a believer in "Christian Science," a religious faith which enables the believer to prevent pain in her person by the exercise of her will, her failure to employ her faith for her relief was contributory negligence. The lower court, in which the case was first tried, rejected this defence and the prosecution won a verdict for damages. On appeal the highest court of Texas reversed the decision of the first court and ordered a new trial on the ground that the plaintiff was in law bound to use proper measures for the relief of pain, and as she had implicit faith in "Christian Science," which taught that pain could be prevented by the exercise of the will of the sufferer, her failure to employ that remedy was negligence. It was required that in the re-trial the defence should be allowed to introduce evidence for the consideration of the jury relating to the plaintiff's faith in the "Christian Science" method of preventing and relieving pain.

Vaccination in the Philippines.

Dr. V. G. Heiser, chief United States quarantine officer of the Philippines, states that the systematic vaccination of the people has resulted in a very marked diminution of small-pox to a degree unknown for 300 years. During the quarter covered by the report the work of vaccinating the entire population of Cebu was completed, the first time in the history of the Philippines that the people of a province, numbering over three quarters of a million, have been vaccinated. Whenever the vaccination of a province is completed the work is followed up by vaccinating every six months all the children who have been born during that period and all unvaccinated persons who may have taken up their residence there during the interim.

Law controlling Marriage in the Interests of Public Health.

The Philadelphia County Medical Society recently passed a resolution expressing its approval of a Bill before the Pennsylvania legislature requiring certificates to the effect that both parties to a proposed marriage are, in the opinion of a qualified physician, free from disease transmissible to progeny. Similar measures are now before several State legislatures and in two or three instances they have been enacted into law and are now operative.

A New Name for the Mosquito which communicates Yellow Fever.

The Departments of Public Health and of Agriculture through the bureau of entomology, have adopted the name of "stegomyia calopus" as the name of the yellow fever mosquito. It has been known heretofore by several names, such as culex fasciatus, culex calopus, and stegomyia fasciata. More than a century ago the mosquito, now recognised as the species having the power of communicating yellow fever to the human subject, was classified as a culex, with the title of culex fasciatus, a name formerly given to an insect not identical with this one. The term culex calopus was adopted later, but with the classification of this mosquito with the genus stegomyia it is now proposed to give it the name, stegomyia calopus, by which it will hereafter be designated officially in this country.

April 19th.

THE ROYAL ACADEMY EXHIBITION.

THE one hundred and thirty-ninth exhibition of the Royal Academy of Arts will be opened to the public on Monday next, May 6th, and the public will find in the beautiful galleries of Burlington House a show of average merit—that is to say, there is provided for their inspection a few good pictures, a great many pleasing works, and a certain number of canvases for the presence of which it is not easy to account. The accusation repeatedly brought against the Academy that the wall space is largely monopolised by the Academicians and Associates is not in the least borne out this year. To treat the outsider generously came into fashion at the exhibitions of the Royal Academy some ten years ago, and appears now to have grown into a custom. The day when the line of sight was monopolised in room after room by large replicas of the bygone exploits of Academicians is over, a reform which makes distinctly for the popularity of the exhibition, while showing the Academicians and the Associates to distinct advantage as artists.

In landscape the present exhibition is strong; there are good examples of every sort and the best work is the work of the old hands. The most likely to arrest attention are the poetic pictures of Mr. Alfred East, the simple but admirably executed pictures of Mr. Leader, the examples of their art sent by Mr. Joseph Farquharson, Mr. Peter Graham, Mr. J. MacWhirter, and Mr. David Murray, and the sun-flooded canvasses of Mr. Clausen and Mr. La Thangue. We do not always find it easy to believe in Mr. Clausen's prismatic sun-effects, but if his daring betrays him sometimes it enables him at others to achieve wonderful success. Mr. La Thangue's work is far more obvious, but exhibits just as accurate observation of the wonderful manner in which a flood of light may transmute the soberest objects into lines and masses of gorgeous colour.

Portraits on the whole are not so numerous, we think, as they have been of recent years, or is it that the comparative absence of the robes and uniforms belonging to various mayoralties, doctorates, and services are less in evidence? There is a sound little representation of the King by Mr. A. S. Cope, and a good portrait of Sir William Perkin by the same artist, the subject's life-work being effectively if naively indicated by his grasp of a mauve ribband; the Hon. John Collier's portrait of the late Sir Michael Foster is a dignified picture and an admirable likeness; Mr. Albert Collings sends a portrait of Lord Ampthill, which depicts that excellent administrator as nine feet high; Sir William Richmond exhibits an alert and dignified portrait of Miss Mary Robinson and

London Hospital for Diseases of the Chest each receive £500. The ultimate residue of his estate is to be distributed amongst the Westminster, Guy's, and St. Mary's Hospitals, London, the General Hospital, Tunbridge Wells, and the Glasgow Royal Infirmary. The estate is valued at £119,508.

KING'S COLLEGE (UNIVERSITY OF LONDON).—The forty-seventh annual dinner of King's College, London, will be held at the Hotel Cecil on Monday, May 27th. The Bishop of St. Albans will be in the chair.

AMERICAN MEDICAL ASSOCIATION.—Mr. Herbert J. Paterson, F.R.C.S. Eng., is to give an address before the Surgical Section of the American Medical Association, which will meet at Atlantic City during the first week in June. The subject is, "The Operation of Gastro-jejunostomy and its Physiological Effects."

CROWNHILL CONVALESCENT HOME.—The annual meeting of the subscribers to the Crownhill Convalescent Home, near Plymouth, was held on April 25th. The medical report stated that during 1906 the in-patients numbered 279, compared with 317 in 1905. The financial statement was satisfactory and showed a favourable balance of £18.

PRESENTATION TO A MEDICAL PRACTITIONER.—At Treherbert, last week, the miners of the Fernhill, Blaenrhondda, and Bute Collieries, presented Mr. William Cathcart Hinde, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., with a clock, a set of cutlery, and an address as a mark of respect and esteem.

NATIONAL SANATORIUM, BENENDEN.—Princess Christian on April 30th formally inaugurated the completed portion of the National Sanatorium at Benenden, near Cranbrook, Kent, erected by the National Association for the Establishment and Maintenance of Sanatoria for Workers suffering from Tuberculosis. A description of the ceremony and the building will be published in a future issue of THE LANCET.

ROYAL DEVON AND EXETER HOSPITAL.—At the quarterly meeting of the governors of the Royal Devon and Exeter Hospital, held on April 25th, it was reported that there was an adverse balance against the institution of £1392, being £868 more than for the corresponding period of last year. The chairman (Sir Duckworth King) remarked that unless more support was forthcoming the committee would have to sell some more funded stock.

CERTIFICATES UNDER THE WORKMEN'S COMPENSATION ACT.—At a meeting of the Newbury and District Medical Society held on April 25th the following resolutions were proposed, seconded, and carried *nemine contradicente* and the honorary secretary was directed to forward a copy for publication to THE LANCET and the *British Medical Journal*, and also to every member of the society who was not present at the meeting.

Resolution 1.—That this meeting is of opinion that the certificates issued under the Workman's Compensation Act by any insurance company, which are required to be filled in at the expense of the injured workman and stating the probable duration of disablement, should not be signed by any member of this society.

Resolution 2.—That no certificate be filled up on behalf of the employer under the above Act for a less fee than one guinea.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Notification of Births Bill.

THE Bill to provide for the early notification of births, which Lord ROBERT CECIL has introduced into the House of Commons to deal with the problem of infantile mortality, has the support of Mr. LYTTELTON, Mr. SHACKLETON, Mr. VERNEY, Mr. GULLAND, Mr. MASTERMAN, Mr. SHERWELL, and Mr. TENNANT. It has been printed and the text of its operative clause is as follows:—

(1) In the case of every child born after the first day of January, 1908, it shall be the duty of the father of the child, if he is actually residing in the house where the birth takes place at the time of its occurrence, or in his absence of any person in attendance upon the mother at the time of the birth or within six hours thereafter, to send or give notice of the birth to the medical officer of the district in which the child is born within 48 hours after such birth.

(2) It shall be sufficient compliance with this section if notice be sent by prepaid letter or postcard addressed to the medical officer.

(3) It shall be the duty of all rural and urban sanitary authorities to bring the provisions of this Act to the attention of all medical practitioners and midwives practising in their district.

(4) Any person who fails to give or send notice of a birth in accordance with this section shall be guilty of an offence and shall be liable on summary conviction to a penalty not exceeding twenty shillings.

(5) The notification required to be made under this Act shall be in addition to and not in substitution for the requirements of any Act relating to the registration of births.

(6) This section shall apply to stillborn children as well as to children born alive.

Public Health Officers Bill.

Three members of the House of Commons, Mr. ARTHUR BLACK, Mr. HARMOOD-BANNER, and Mr. A. H. SCOTT, have given notice that they will move the rejection of the Public Health Officers Bill when the second reading of the measure is moved.

Opposed Bills.

The second reading of the Pharmacy Bill is to be opposed by Mr. BARKER and Mr. DUCKWORTH, whilst Mr. RADFORD has given notice that he will move the rejection of the Sale of Whisky Bill.

The Butter and Margarine Bill.

Sir EDWARD STRACHEY, who represents the Board of Agriculture in the House of Commons, has, as already stated in THE LANCET, moved the second reading of the Butter and Margarine Bill, which deals with the limit of moisture in butter and butter substitutes. Some of the Irish Members take exception to provisions in the Bill which will affect the Irish butter trade. Both Mr. WILLIAM REDMOND and Mr. JOYCE have given notice of an identical motion on this point, which will be moved as an amendment to the motion for the second reading before the debate terminates. It is in the following terms: "That, whilst it is highly desirable and necessary to legislate to secure proper regulations for the sale of butter, it is not expedient to interfere in any way with Irish salt firkin butter, for which there is a steady market and which is an important industry for large numbers of farmers in Ireland."

The Vaccination Bill.

Mr. JOHN BURNS on Tuesday presented a Bill to substitute a statutory declaration for the certificate required under Section 2 of the Vaccination Act, 1898, of conscientious objection. It was read a first time.

The text of Mr. BURNS's Vaccination Bill was issued on Wednesday. Its clauses are as follows:—

Clause 1.—The Vaccination Act, 1898, shall be read as if the following section were substituted for Section 2 of that Act:—

(1) No parent or other person shall be liable to any penalty under Section 29 or Section 31 of the Vaccination Act, 1867, if within four months from the birth of the child he makes a statutory declaration that he conscientiously believes that vaccination would be prejudicial to the health of the child and within seven days thereafter delivers the declaration to the vaccination officer of the district.

(2) A statutory declaration made for the purposes of this section shall be exempt from Stamp Duty.

(3) A statutory declaration for the purposes of this section shall be made in the form set out in the schedule to this Act, or in a form to the like effect.

Clause 2.—Section 2 of the Vaccination Act, 1898, is hereby repealed, but the repeal shall not effect the operation of any certificate obtained before the passing of this Act.

Clause 3.—(1) This Act shall come into operation on the first day of January nineteen hundred and eight.

(2) This Act may be cited as the Vaccination Act, 1907, and may be cited with the Vaccination Acts, 1867 to 1898.

The form of declaration required to be signed by the parent or person having the custody of a child, which is given in the schedule, sets forth that he shall "solemnly and sincerely declare that he conscientiously believes that vaccination would be prejudicial to the health of the child, and he makes this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the Statutory Declarations Act, 1835."

HOUSE OF LORDS.

THURSDAY, APRIL 25TH.

Necrosis in Match Factories.

The Earl of LYTTON called attention to the death from necrosis recently reported from the factory of the Messrs. Moreland. He asked the noble lord representing the Home Office in the House whether, in view of the fact that phosphorus poisoning could not be prevented by the special regulations at present in force, His Majesty's Government would reconsider its attitude towards the Berne Convention prohibiting the use of yellow phosphorus in matches. The noble earl in putting the question mentioned that six European States—France, Germany, Italy, Holland, Denmark, and Switzerland—had signed the Berne Convention prohibiting the manufacture, importation, or use within their territories of matches made with the dangerous white or yellow phosphorus. Every kind of match which the public could require

Medical News.

University of Cambridge.—At a congregation on April 25th the following degrees were conferred:—

M.D.—G. S. Haynes, King's; J. G. Slade, Clare; L. Bousfield, Pembroke; and G. W. de Poulton Nicholson, Jesus.

M.B.—W. S. Tresawna, Sidney Sussex; and J. M. P. Grell, Selwyn Hostel.

B.C.—W. L. Murphy, St. John's; W. S. Tresawna, Sidney Sussex; and J. M. P. Grell, Selwyn Hostel.

Dr. L. Cobbett, late Professor of Pathology in the University of Sheffield, has been appointed a University Lecturer in Pathology as from Lady Day, 1907, to Michaelmas, 1911.—Mr. Cuthbert S. Wallace and Mr. Raymond Johnson have been appointed additional Examiners in Surgery for the M.B., B.C., and M.C. degrees.—Dr. Harmer, Mr. W. Bateson, and Mr. A. E. Shipley have been appointed delegates of the University to the Seventh International Zoological Congress, Boston, August, 1907.—Dr. E. Barclay-Smith has been appointed an Examiner in Human Anatomy for medical degrees, in the place of Professor A. Macalister who is abroad.—The following have passed both parts of the Sanitary Science Examination and are entitled to the University Diploma in Public Health:—E. J. Brown, J. B. Cook, C. Fraser, F. H. G. Hutchinson, D. C. Kirkhope, C. H. Lindsay, D. McKail, P. MacKessack, J. S. New, W. G. Parker, J. C. Robertson, J. B. Smith, A. N. Stevens, F. E. Stokes, and T. M. Strang.

University of Durham.—At the Third Examination for the degree of Bachelor in Medicine held in April the following candidates satisfied the examiners:—

Pathology, Medical Jurisprudence, Public Health, and Elementary Bacteriology.—First-class Honours; Eldred Curwen Braithwaite, College of Medicine, Newcastle-upon-Tyne. *Pass List;* Leonard Foster Browne and Charles Ernest Lewis Burman, College of Medicine, Newcastle-upon-Tyne; John Everidge, King's College, London; Reginald Cyril Herbert Francis, College of Medicine, Newcastle-upon-Tyne, and Guy's Hospital; Arthur Charles Greene and Hedvig Christina Kellgren, College of Medicine, Newcastle-upon-Tyne; Raghunath Vithal Khedkar, L.R.C.P. & S. Edin., L.F.P.S.G., Grant College, Bombay; Herbert Richard McAleenan and Friederike Rahtkens, College of Medicine, Newcastle-upon-Tyne; and Eric Frushard Waddington, University of Leeds.

Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow.—In April the following candidates passed the undermentioned examinations:—

First Examination.—Five Years' Course: Tom Entwisle Ferguson, Bolton; Colin Hunter, Glasgow; Allan Ross Henry, Cape Colony; Hugh Francis Williams, Llanfyllin; Ishwar Das, Punjab, India; Patrick Walsh, Co. Limerick; John Scott, Dalry, Ayrshire; Charles Stuart Ogilvy, Blantyre; and William Woodburn M'Cowat, Transvaal.—*Four Years' Course:* Thomas Mitchell Jamieson, County Tyrone.

Second Examination.—Five Years' Course: David Lindsay Hutton, Glasgow (with distinction); Ernest Averell, Newcastle-on-Tyne; Robert Stobo Watt, Glasgow; Arthur Duncan Macarthur, Pollokshields; Robert Miller Danks, Coatbridge; Michael Vincent Walsh, Cork; Hugh M'Ilroy, Co. Antrim; and Robert Anderson, Delth.

Third Examination.—Abraham David Woolf, Birmingham; Henry William Turner, Glasgow; John McCall, Ulverston, Tasmania; James Thomas Gwynne Jones, Brecon, Wales; Abdul Mujid Shah, Patiala, India; Ernest Gibson, Cork; David Welsh, Lanarkshire; Ishwar Das, Punjab, India; Archibald Davidson, Melbourne; Maurice Edward Kayton, Bagdad; and George Noel Braham, Bath.

Final Examination and admitted Licentiates of the Three Coöperating Authorities.—Shridhar Chintaman Jog, Edinburgh; Joseph Hume Patterson, Glasgow; Oliver David Gunasekara, Colombo, Ceylon; Fred Garnet Allan, Whaley Bridge, Cheshire; Hugh Ferguson Watson, Gartnavel, Glasgow; Edward Robert Harriott, Jamaica; Arthur Annesley Stork Kats, Ceylon; Effie Jemima Cassels, Glasgow; Charlotte Eliza Pring, Bristol; Phiroza Behranji Mufabari, Bombay; Emile Hamel Smith, Edinburgh; Frederick James Breakell, Glasgow; Malcolm Ross Slack, Canada; Hugh Graham Anderson, Newlands, Glasgow; Ada Geraldine Boyletter Dias, Bombay; Hiralal Keshavlal Nanavati, Glasgow; Lennox Donald Napier, Egremont, Cheshire; and William Frederick Fismer Durr, Glasgow.

At the meeting of the Portishead (Somerset) urban district council held on April 26th Dr. Charles A. Wigan was elected chairman.

Medical Magistrates.—The names of Mr. William Wilfred Williams, L.S.A., and Mr. James William Stephens, L.R.C.P. Lond., M.R.C.S. Eng., have been added to the commission of the peace for the county of Pembroke.

Tiverton Infirmary.—The committee of the Tiverton (Devon) Infirmary has decided to enlarge the children's ward of the institution. Mr. J. Coles has presented a house adjoining the institution to be used as a nurses' home. He has also given £500 for the purpose of making necessary alterations which will be required in the building.

The Old Infirmary Site, Manchester.—As time goes on and the new infirmary in Oxford-road, Manchester, advances towards completion the destiny of the old site in Piccadilly becomes more interesting and the various views concerning it are expressed more warmly. Some would like every scrap of building removed and the whole area preserved as an open space. Others would keep the present buildings, adapting them, so far as possible, to serve as an art gallery and free library. Another small party would build about 250 shops on the ground floor of a building the upper part of which would serve for the art gallery and free library. These various schemes do not seem to have attracted any very large amount of public enthusiasm. The first is held to be only attainable at too great a cost. The present building is thought by many to be too heavy and dark readily to be made suitable for the display of works of art. The addition of 250 shops to those that already provide amply for the needs of Manchester is not looked for very eagerly by the shopkeepers of Market-street, King-street, Oldham-street, &c., who are struggling under heavy rents and heavy rates. It is said that there are not 250 shops in Market-street and King-street together, so that the addition of 250 more, for which there seems neither need nor room, would if successful swamp many old-established businesses, while if unsuccessful they would go far towards ruining this ambitious scheme. This question seems to have led to the formation of a new "Society of Friends of Art" in Manchester, which held a meeting on April 17th, at which Professor Boyd Dawkins moved a proposition approving the suggestion of the art gallery committee to widen their scope and to build an art gallery and free library on the infirmary site. The gallery would illustrate not only painting but various branches of art and would, in fact, be a museum as well as a picture gallery. There would be ample room for the building and a considerable open space round it. The motion was carried unanimously. On the whole the trend of opinion, so far as it can be ascertained, is in the direction of the last scheme.

Precautions against Plague in Calcutta.—The special health officer of Calcutta, Dr. T. Frederick Pearse, recently issued some simple precautions to the community against the spread of plague. The principal points to which attention is directed are: avoid sleeping on the bare ground at night, do not touch dead rats with the hands, avoid eating grain in which dead rats have been found, kill all rats and mice on premises, avoid the breath and discharges of plague patients, ventilate rooms well, and wash clothing and expose all clothes and bedding to sunshine regularly. The employers of labour and medical practitioners are enjoined to report persons suffering from ailments which in any way suggest plague infection.

French Medical Excursion to Central Europe.—A French medical excursion party (*voyage d'enseignement médical*), "Excursions Médicales Internationales, 1907," will visit several cities in Central Europe between August 7th and 23rd. The party will assemble at Nancy and will proceed to Stuttgart, Munich, Nuremberg, Carlsbad, Marienbad, Prague, Vienna, Budapest, Salzburg, Gastein, Innsbruck, Zürich, and Baden in Switzerland. The party will separate at Besançon-la-Mouillère. The programme and conditions of the excursion will be published at an early date. Inquiries, inclosing a postage stamp for reply, may be addressed to the *administrateur* of the society, M. Etienne Bazot, 8, Rue Françoise-Millet, Paris 16.

Donations and Bequests.—By the will of Mr. John Thomson of Tunbridge Wells the following hospitals each receive £1000: General Hospital, Tunbridge Wells, St. Bartholomew's, Guy's, London, King's College, St. George's, Charing Cross, Middlesex, University College, Brompton Cancer, St. Thomas's, Royal Free, Great Northern Central, and West London Hospitals, National Hospital for the Paralysed and Epileptic, Royal London Ophthalmic Hospital, Moorfields, Hospital for Consumption and Diseases of the Chest, Ventnor, Brompton Consumption Hospital, Hospital for Sick Children, Great Ormond-street, Victoria Hospital for Children, Chelsea, and Royal Hospital for Incurables, Putney. The Earlswood Asylum for Idiots and the City of epidemic of typhoid fever broke out at the asylum owing to the alleged defective sewerage, by which several of the patients lost their lives, and that the sanction of the Board of Trade became necessary owing to the fact that the sewers were to be carried over a small stream subject to tidal influence that ran dry in the summer season and that the principal owner and occupier of the adjacent lands gave his sanction to the project months ago.—Mr LLOYD GEORGE (in a written answer) replied The first communication in this matter from the Dublin Office of Lunatic Asylums was received in August last, but it was not until October that the necessary plans were forwarded to the Board, who, in the same month gave instructions for the application to be advertised The Lunatic Asylums Office, however, demurred to the newspapers prescribed by the Board for the advertisement, with the result that proofs of the advertisement were only received on Jan 5th last On receipt of these proofs the owners of the property adjacent to the site of the proposed works were at once consulted by the Board of Trade but one of them, though written to more than once, neglected to reply, thus causing delay The Board of Trade has now informed the inspectors of Lunatic Asylums that they are prepared to consent to the works on certain conditions. I have no information as to the matter referred to in the last part of the question.

Dispensary Doctors in Ireland.

Answering Mr. THOMAS O DONNELL, who asked a series of questions bearing on the amounts paid to dispensary doctors in Ireland, Mr BIRRELL wrote: The total amount of the salaries of dispensary medical officers in the year 1897 came to £90,727, of which one-half was recouped from the Parliamentary Grant. It would not be possible to state with accuracy the actual credit given to each county in respect of the salaries of dispensary medical officers In the year ended March, 1906 the salaries of medical officers, together with the payments for services of temporary medical officers, came to £110,134 of which it may be taken that somewhat less than one-half was recouped from the Local Taxation Account The exact amount of recoupment cannot be given owing to the limitation imposed by section 6 (1) of the Local Government Act of 1902. The salaries of medical officers are paid according to unions, and the unions are not in all cases coterminous with the counties The present number of unions extending beyond county limits is 46, but there were more than this number in 1897, and no sectional valuations are available for the purpose in that year, so that a comparative statement could not be arrived at.

THURSDAY, APRIL 25TH.

The Irish University Scheme.

Answering Viscount TURNOUR,

Mr BIRRELL said that he had received protests against proceeding with the Irish University scheme upon the lines laid down by the late Chief Secretary to the Lord Lieutenant for Ireland from the Senate of the University of Dublin, resident members of the University of Oxford principals and professors of the Scottish universities, of the University of Sheffield, the constituent colleges of the University of Wales, and of St. David's College, Lampeter, and from lecturers in the School of Medicine of the Royal Colleges, Edinburgh. So far as English and Scottish university opinion was expressed in these protests it was mainly confined to that part of the proposal which related to a federated university

Pulmonary Tuberculosis in Belfast Mills

Mr DEVLIN asked the Secretary of State for the Home Department whether his attention had been called to the high death rate in Belfast from pulmonary consumption and to the fact that the death rate was highest among mill and factory workers, the vast majority of whom were females; whether there was any female factory inspector in Belfast and, if not whether in view of the number of women and young girls employed in mills and factories in Belfast, he would consider the advisability of appointing a female inspector for that city and the North of Ireland generally Mr. GLADSTONE answered: The figures given in the report of the Registrar-General for Ireland for the year 1905 do not appear to me to show any necessary connexion between the deaths in Belfast from tuberculous disease and employment in the linen factories I may point out that the conditions obtaining in the flax and linen mills have been made the subject of a special inquiry by Sir Hamilton Freer Smith and that as a result new regulations for the industry have just been established dealing with the removal of dust, wet, &c., which should do much to improve the health of the workers I shall be glad to send the honourable Member a copy With regard to the last part of the question one of the lady inspectors resides in Belfast for two-thirds of each year, devoting her time chiefly to inspection in the city. Others of the lady inspectors also visit Ireland occasionally

Lead Poisoning in Royal Dockyards

Mr BRAMSDON asked the Secretary to the Admiralty to state how many cases of lead poisoning had been treated by the surgeons of Portsmouth, Devonport Chatham, Sheerness, and Pembroke dockyards respectively during the year 1906—Mr EDMUND ROBERTSON replied (by written answer) The following is the number of cases of lead poisoning treated during the year 1906 —Portsmouth 7 Devonport, 3, Keyham 2, Chatham, 2, Sheerness, *nil* and Pembroke, 2.

Cerebro-spinal Fever and Old Clothes

Mr SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to a resolution passed by the Downpatrick rural district council against Belfast dealers displaying goods for sale on fair days in that town on the pretence that it was done to avoid the spread of spotted fever, and whether, in view of the fact that the Downpatrick council gave no evidence to support its contention and the fact that dealers from Belfast had been injured in their business he would call upon the council to justify its resolution or withdraw it —Mr BIRRELL furnished the following written reply: The Downpatrick town commissioners passed a resolution requesting the Downpatrick rural district council to take steps to prevent old clothes from being brought for sale into the town The district council thereupon inquired from the Local Government Board whether it had power to comply with the request and was informed in reply that the Board was not aware of any enactment giving such power except in the case of infected articles I have no authority to do what the honourable Member suggests.

Pauper Children

In answer to Mr W E. B. PRIESTLEY, Mr JOHN BURNS wrote: On Jan 1st, 1907, the numbers of pauper children relieved in workhouse infirmaries in England and Wales were as follows:—

—	Number of children chargeable to Poor-law unions in London.	Number of children chargeable to Poor-law unions outside London.	Total.
(*a*) Not including insane and idiots—			
(1) In workhouses, otherwise than in infirm wards ..	1,045	13,630	14,675
(2) In infirm wards or infirmaries ...	2,045	4,645	6,690
(*b*) Insane and idiots in workhouses*	14	302	316
	3,105	18,577	21,682

* There were also 132 children chargeable to London unions in district sick asylums and 797 children in the imbecile asylums belonging to the managers of the Metropolitan Asylum District.

The number of children over three years of age chargeable to Poor-law unions in London in the workhouses on Jan. 5th last was 446 and in infirmaries 1004 Similar information with regard to the rest of England and Wales is not available

MONDAY, APRIL 29TH.

The Royal Commission on the Feeble minded.

In answer to Lord ROBERT CECIL. Sir HENRY CAMPBELL-BANNERMAN said: I am informed by the chairman of the Royal Commission on the Care and Control of the Feeble-minded that the evidence has just been closed and that the report will be presented at the earliest possible moment, but how soon this would be it was impossible to say.

The Royal College of Physicians of London and the Plague.

Dr RUTHERFORD asked the Secretary of State for India what action had been taken by the Government in regard to a deputation of the Royal College of Physicians in May, 1905, to the Secretary of State for India pointing out the danger of the plague and recommending certain measures to be taken, and whether he would lay upon the table the memorandum of the College of Physicians.—Mr. MORLEY furnished the following written answer: Some delay which I regret has occurred in this matter. The memorandum reached India at a time when the Government of India had called for and were awaiting reports by the local governments on the subject of plague remedies, based on the personal experience of their officers These reports, which were very voluminous, were dealt with in a published resolution by the Government of India of Jan 17th, 1906 laying down in detail a complete policy for dealing with plague. This policy in its preventive features is in practical accordance with the memorandum of the Royal College of Physicians. The Government of India have since considered, in communication with the local governments, the recommendations of the memorandum for a special medical organisation for dealing with plague Their scheme has not yet been definitely formulated, but I understand that the sanitary service will be strengthened by employing a larger number of qualified natives of India. I shall be happy to lay the memorandum on the table if my honourable friend will move for it.

The Vaccination Order.

Mr LUPTON asked the President of the Local Government Board whether he would state the reasons for delay in issuing the Vaccination Order which on Feb 14th he stated in the House was to be circulated in a few days, and whether he would name a day by which the Order in question might be expected to appear —Mr BURNS replied (by a written answer) Some questions of difficulty have arisen in settling the details of the Order which have delayed its issue These will, I hope, be very shortly surmounted and the Order will then be issued

TUESDAY, APRIL 30TH.

Calico and Blood Poisoning.

Mr SUMMERBELL asked the Secretary of State for the Home Department whether he was yet in a position to report the results of his investigations in regard to the death of Ann Wilson at Sunderland through blood poisoning, alleged to have been set up through the dressing used by manufacturers in the making of calico —Mr GLADSTONE answered: I obtained a piece of the calico and had it subjected to analysis by an expert, who after various experiments reported that it was free from pathogenic organisms the organisms found being common contaminations of any material which is exposed to air.

Small pox in Germany

Mr LUPTON asked the President of the Local Government Board whether, in view of the epidemic of small pox in Germany and the probable derivation of vaccine from variolous matter in that country, he would take steps to prohibit the importation of vaccine from the continent into England during such time as the epidemic may continue.—Mr JOHN BURNS said in reply: I have no information as to there being an epidemic of small pox in Germany, although I am aware that there has been some prevalence of the disease on the frontier at Metz I have no authority to prohibit the importation of lymph from the continent, and I may add that I understand that any vaccine of variolous origin which is current in Germany and which is liable to be imported into this country would have been frequently passed through the calf.

Public Health Inspection in Scotland.

Mr WATT asked the Secretary for Scotland whether he would grant a return of the number of local authorities who had, and of those who had not appointed veterinary surgeons to carry out the provisions contained in sections 43 and 60 of the Public Health (Scotland) Act, 1897, and in Article 3 of the Dairies, Cowsheds, and Milkshops' Order of 1893 —Mr. SINCLAIR replied: I am informed that all the could be made without the use of this dangerous kind of phosphorus. The British Government, although it claimed to have the interests of the industrial classes at heart, would not join the other nations in their efforts to stamp out necrosis. However, it said that it would only join in the Convention on condition that every nation which imported matches did the same. The special regulations of the Home Office on this subject were not a sufficient protection. Since they came into force five cases of phosphorus poisoning had occurred in this country.

Earl BEAUCHAMP, on behalf of the Home Office, said that in 1900, when there was a good deal of discussion upon the question of phosphorus poisoning, the Secretary of State for the Home Department, instead of prohibiting the use of phosphorus in this country, caused special rules to be made and the memoranda which had been laid before Parliament showed that these rules had had very satisfactory results. There had only been five cases of necrosis in the five years during which these special rules had been in force. Three of these cases had been mild and the persons affected had recovered and were able to find other employment. The other two cases were fatal. As regarded the case to which the noble earl specifically referred to, it was probable that the disease was contracted before the special rules were made, because he was informed that necrosis lurked in the the body for a considerable period before making its appearance. The man had worked in a match factory for 12 years and it was very probable that he had caught the disease, which was of an insidious character, before the new rules came into operation. It would not be fair, therefore, to regard the case as being in any way due to a defect in these rules. The Government was of opinion that the special rules had been successful and it proposed to adhere to the position. The Home Secretary, however, had in contemplation amendments which were specially designed to meet such a case as the noble earl had brought to the notice of their lordships. Special arrangements would have to be made in regard to dental examination and the Home Secretary proposed to frame a rule to prohibit tobacco chewing, which was said by doctors to have a bad effect upon persons who worked in match factories.

MONDAY, APRIL 29TH.

Prohibition of Medical Practice by Companies Bill.

Lord HYLTON moved the second reading of the Prohibition of Medical Practice by Companies Bill. He said that he hoped to be able to convince their lordships of the necessity for legislation of the character proposed in the Bill. He would remind them that the Medical Acts of 1858 to 1886 provided in effect that only persons who were legally qualified by having passed prescribed qualifying examinations and by being registered in the Medical Register could lawfully practise medicine, surgery, and midwifery throughout the United Kingdom. It had been, unfortunately, true that what was illegal for one man to do himself as a physician or surgeon, it was legal for him to do if he joined unto himself five or six or seven other unqualified persons. It seemed a scandalous state of things that such should be possible; but unfortunately the General Medical Council, who were the body whose duty it was under the Privy Council to administer these Acts, had found themselves unable to stop these practices, and, in fact, they were widely spread. From a document furnished to him by the General Medical Council it appeared that the incorporation of these bogus medical and dental companies went on steadily and a good many of them had been registered since the matter was last brought before Parliament. He found that a circular had been widely distributed by a firm of company registration agents in which it was urged that unqualified men who wanted to act as doctors and dentists should avail themselves of the incorporation of companies as a means by which the prohibition imposed by the Medical Acts might be entirely avoided, this prohibition being described by them as onerous. He had been furnished by the General Medical Council with a long list of these bogus companies, and many of them were not included in the return to the House of Commons moved by Sir John Tuke. Some of these bogus companies had done great evil and the great object of the Bill was to protect the poorer classes of the community who were deceived by these sham companies. If these companies could be dealt with by the law and could be prosecuted it would be found that they would at once go into liquidation. The examination of the list of shareholders of the sham companies at Somerset House had revealed the fact that there were very few shareholders indeed, and only sufficient shareholders were taken into the companies to permit of them being formed. Their lordships might wonder why legislation had not taken place to protect the public and to prevent lives being sacrificed by these companies. The General Medical Council were not to blame in this matter. They had endeavoured to induce successive Governments to take up this matter and to initiate legislation. In 1900 Lord Halsbury put two clauses into his Companies Bill of that year and these would effectually have put a stop to these evils. These clauses were accepted by their Lordships' House. The Bill then went down to the House of Commons. Unfortunately for the views of the General Medical Council and others who took an interest in the matter, the clauses were struck out for the reason that they were not germane to a Companies Bill. He did not speak with any authority on that point, but the representatives of the medical profession in the House of Commons without exception, such as Sir Walter Foster and Sir John Tuke, and other Members, such as Mr. Bryce, begged the Government of the day not to take these clauses out of the Companies Bill. However, the month was August. Both Houses of Parliament were, as they usually were at that season of the year, anxious to get business through, and in order to prevent any opposition taking place to the Companies Bill the two clauses were struck out of it and in this condition it was passed. The general view of the medical profession was that something should be done to deal with this evil of practice by bogus companies. Since the Act of 1900 the General Medical Council had not been idle in this matter, but they had been unable to induce any of the Governments to take it up. Now, after H.M. Government had been approached it was suggested that a private Member like himself should bring in this Bill.

The Earl of HALSBURY supported the Bill. His lordship, who was indistinctly heard, was understood to say that the clauses dealing with medical companies had not been persisted in in the Bill of 1900, because with them it would have been hopeless to have attempted to pass the Bill. He had received an enormous amount of literature from the medical profession which showed that the law had been deliberately evaded by people turning themselves into a company. This was a very facile means of evading what the legislature had deliberately laid down with regard to the qualifications of medical men.

The Earl of CREWE, who spoke on behalf of the Government, said that the two noble lords had given the past history of this matter, which was by no means unimportant matter. He thought that what happened in 1899 was that the noble earl began by introducing a Bill dealing with this subject only, and then it was thought better to attempt to incorporate the substance of that Bill in the Companies Bill of the following year. When the two clauses in that Bill dealing with medical companies went to the House of Commons they met with the fate that had been described. He believed as a matter of fact that it was the friends of the noble earl himself who got them struck out. It was satisfactory that Lord Hylton had brought the subject before their lordships. His Bill in the opinion of the Government met something which nearly approached a public scandal—namely, the possibility of the evasion by unqualified persons of the law relating to medical practice. It was important to point out that in one respect the Bill contained a drastic provision. Not only did it interfere with the proceedings of unqualified people, but it also prevented the formation of a company which would employ fully qualified doctors to act for them. That was a strong decision. However, he thought that it was possible to justify it when they remembered that the relations of doctor and patient were so confidential that the weight of them ought to rest upon each doctor individually and he ought not to be able to shelter himself behind the name of a company. He further thought that it would be generally agreed that the kind of man who would be employed by a company would be one of the derelicts of his profession and it would be as well not to encourage the kind of practice which would take place if such companies were allowed to be formed. He understood that Lord Hylton was quite willing that this Bill should be referred to a Select Committee. If that course were followed the Government would fully concur in it. It was no doubt important that they should seek to avoid all hardship to individuals, and they desired to avoid any suspicion that they were dealing hardly with the kind of practice which obtained amongst the very poor. It was desirable that the matter should be thoroughly threshed out before a Select Committee. He hoped therefore that their lordships would agree to the second reading and allow this course to be followed.

The motion for the second reading was then agreed to.

Lord HYLTON then moved that the Bill should be sent to a Select Committee

This course was also agreed to.

Dental Companies (Restriction of Practice) Bill.

Lord HYLTON then moved the second reading of the Dental Companies (Restriction of Practice) Bill. He said that this Bill was almost on all fours with the preceding Bill dealing with medical practice. He did not know whether it was proper to deal with both subjects in one Bill or in two. The General Medical Council thought, however, that two Bills should be brought in There was a difference in the two Bills. This Bill did not propose to make it illegal for a company to practise dentistry provided that its members were registered dentists.

The Earl of CREWE said that this Bill was complementary to the other with the addition mentioned by the noble lord. He thought that this case was different from the one of the doctor. The dentist remained in his own torture chamber and generally did not visit the domestic circle of his patient. This provision did not apply to the doctor.

The Bill was then read a second time and was referred to the same Select Committee as should deal with the Prohibition of Medical Practice by Companies Bill.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 24TH.

The Ballina Dispensary.

Mr LONSDALE asked the Chief Secretary to the Lord Lieutenant of Ireland what action had been taken by the Local Government Board in regard to the appointment of Dr. Clarke as temporary medical officer to the local dispensary district, having regard to the fact that the Ballina board of guardians made it a condition of his appointment that he should use his influence to induce his uncle to relinquish his tenancy on the Orannagh farm.—Mr. BIRRELL replied: The Local Government Board has sanctioned Dr. Clarke's appointment as temporary medical officer of the Ballina dispensary district. No facts came to the knowledge of the Board which would justify it in withholding its sanction.

Medicine for the Edenderry Union.

Mr. LONSDALE asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that when advertising for tenders for the supply of medicines and surgical appliances the guardians of the Edenderry Union stipulated that the envelopes should be marked on the outside from Irish firms; that out of many tenders sent in only four were marked as directed, and only those four were opened and considered; whether this device was resorted to because the guardians had been warned by the Local Government Board that recoupment would not be made in any case where the guardians did not accept the lowest tender received by them; and whether, having regard to the fact that the practice of the Edenderry guardians was being recommended for adoption by other boards with the avowed object of boycotting English firms the Local Government Board proposed taking any action in the matter.—Mr. BIRRELL replied: The facts are correctly stated in the first two parts of the question. The regulations provide that recoupment from the Local Taxation Account will not be allowed in any case in which the guardians accept a tender other than the lowest without the approval of the Local Government Board. The Board does not consider that the contracts in this case have been entered into in accordance with the regulations and it intends, therefore, to disallow recoupment to the guardians in respect of the cost of any medicines or appliances obtained under such contracts.

Typhoid Fever in Clare Lunatic Asylum.

Mr. HALPIN asked the President of the Board of Trade whether he would inquire into the cause of delay in not returning plans of sewerage from the Clare lunatic asylum to the inspectors of lunatics in order that the sanction of the Lord Lieutenant should be obtained to carry out the works, those plans having been forwarded to the Board of Trade eight months ago; and whether he was aware that a serious

Notes, Short Comments, and Answers to Correspondents.

QUOTATIONS FROM THE LANCET.

WE are constantly having to protest against the way in which the proprietors of certain preparations misuse statements which have appeared in these columns. One of the worst offenders is the Vitæ Ore Company, Limited. Some years ago—namely, on March 25th, 1898—we analysed a sample of Vitæ Ore and mentioned that it contained 13·20 per cent. of ferric and 3·9 of ferrous sulphate. We ended our notice by saying, "The clinical results obtained were satisfactory, but the preparation showed no superiority over Bland's pills or other remedies used in the treatment of anæmia." The Vitæ Ore Company took this paragraph and extracted from it the six words, "The clinical results obtained were satisfactory," and these words they are constantly quoting in advertisements of the most blatant kind. A correspondent who is a Baptist minister has forwarded to us an advertisement from the *Baptist Times* in which the Vitæ Ore Company states that its preparation is "the most wonderful discovery of modern times for the successful treatment of ailments caused by a weak or diseased condition of the Stomach, Liver, Kidneys, or Blood, such as anæmia, rheumatism, dyspepsia, eczema, stone, hæmorrhage, wounds, sore-throat, tonsillitis, brain fag, &c." The six words above mentioned are quoted from us. We have no hesitation in saying that this quotation is a gross instance of misquotation. It implies that we recommended Vitæ Ore for the various diseases mentioned in the advertisement, a distinctly misleading implication. We have had upon a previous occasion—namely, in THE LANCET of Jan. 15th, 1905—to point out the misuse made of this quotation. We now charge the Vitæ Ore Company with deliberately using a portion of our statement with intent to deceive the public.

MEDICAL FEES.

To the Editors of THE LANCET.

SIRS,—In a recent article in the *Semaine Médicale* a passage is quoted from the work of Dr. Charles Floquet, "Code Pratique des Honoraires Médicaux," to the effect that it is the custom in England for a medical man to receive on his first visit twice the amount of his fee. On subsequent visits a single fee only is paid and when the patient wishes to signify that the doctor need not return he simply omits to pay and so the attendance comes to an end. As this *cliché* seems to recur every time that an article is written in a French medical periodical on the question of fees in foreign countries and is evidently an article of faith, you would render a service by publishing this letter together with your answer stating what truth there is in this legend and which would, no doubt, be reproduced by the French medical papers.

I am, Sirs, yours faithfully,
April 27th, 1907. FOLK LORE.

*** It is very usual for a "consultant" to charge £2 2*s.* for the first visit and £1 1*s.* for subsequent visits within a reasonable time. The two guineas, however, is the usual fee and not "twice the amount." The statement as to the method of signifying a desire that the attendance should end is, of course, nonsense.—ED. L.

WORKHOUSE MEDICAL OFFICERS AND THEIR DUTIES.

A CORRESPONDENT who applied for particulars of the appointment of assistant medical officer at the Swansea Union Workhouse received a paper setting out the duties of the assistant medical officer and a notice of the vacancy. From this we learn that *the assistant medical* officer must be resident and that as no accommodation for residence is at present provided he shall reside within 250 yards of the workhouse and be paid £30 per annum *for, we presume*, lodging money. His salary is £120 per annum, to include fees for certifying lunatics, extra medical fees, and fees for lectures. He shall also be appointed public vaccinator for the workhouse at the minimum fees. The duties are by no means light. Amongst others he is to accompany the medical officer in his visits to the patients and to carry out all the orders which he may give. He is to examine all children in the workhouse every other day or oftener if required. He is to observe that the nurses and attendants are attentive to their duties and to report them if necessary. He is to give weekly lectures to the nurses, to keep the infirmary medical records, to write out special reports of cases when required to do so to examine all wards of the infirmary twice every day, and to perform any other duties in the infirmary that may be required of him by the medical officer. If he leaves the workhouse or his residence for more than three hours he must inform the master. He must attend every workhouse visiting committee and must provide at his own expense a qualified practitioner to act as substitute during his absence from the institution, except during his annual holiday of two weeks when the guardians pay for his substitute. There are many other duties, and it seems to us that such heavy and responsible duties are not sufficiently remunerated by a salary of £120 a year in the case of a member of a liberal profession. The comfort of the post would of course largely depend upon the character of the medical officer and the master of the workhouse, to both of whom the assistant medical officer appears to be practically subordinate.

THE SPREAD OF INFECTION.

ON April 24th a man named William Lloyd of Lisbon-street Dwellings, Bethnal Green, was summoned by the Bethnal Green Borough Council at Old-street for failure to give notice to the sanitary authority that one of his children was suffering from scarlet fever. The evidence showed that Lloyd's wife took her two-year-old child to Mr. Snell of Bethnal Green who told her that the little patient was suffering from scarlet fever and diphtheria. The woman gave a false address and on the sanitary authority being notified the case could not be traced at first. Some days later, however, the parents were traced and the child was found very ill in a room used by other children. Mrs. Lloyd admitted that two of her children went from home every day to Somerford street public school, while two other girls, aged 18 years and 16 years respectively, went to work in a factory. The husband refused to have the child removed to hospital and said that if it had to go he would carry it through the streets himself. He could only be prevented from doing this by being told that he would be liable for exposing the child. He was fined 40*s.* and 2*s.* costs, but he chose to go to prison in default. This case shows very well the difficulty which the sanitary authorities have among a certain class of people in dealing with infectious disease. Mr. Margetts, who appeared for the borough council, said that poor people thought it was an indignity for the ambulance to call at their house and we fear that this is very often the case. Anything connected with municipal or parish relief other than hard cash is anathema to the poor and their very ignorance prevents them from seeing that to behave in the manner in which Mr. and Mrs. Lloyd did on this occasion is a danger not only to themselves but to their neighbours.

LONDON MEDICAL UNION.

To the Editors of THE LANCET.

SIRS,—It may be of interest to your readers to learn how the above society proposes to solve an ethical dispute between certain of its members. At a meeting of the council of the union the following resolution was passed after considerable discussion:—

"That in the case of a surgeon to a club or other similar body being asked to give an opinion to the club or other body about a patient known to be under treatment by another practitioner, the surgeon should insist on inspecting the certificate given by the medical attendant, and if not able to endorse it he should privately communicate with the medical attendant before giving an opinion."

I am, Sirs, yours faithfully,
A. F. SHOYER,
April 30th, 1907. Hon. Sec., London Medical Union.

CHILDREN'S SIGHT AND SPECTACLES.

IN THE LANCET of April 13th we commented on a letter from an optician named Dunscombe which had appeared in the *Western Daily Press*. Mr. Dunscombe now asks us to publish the whole of his letter and we do so.

BRISTOL EYE HOSPITAL.

SIR,—There is in the report of the excellent work done by the Bristol Eye Hospital, submitted to the subscribers at the annual meeting yesterday, a paragraph laying great stress upon the large amount of time spent by the Eye Hospital staff in testing the sight of school children, of which the committee would like to see the staff relieved, to enable them to deal more particularly with cases of disease in the eyes and with operations. This expression of opinion by such an authority is of great public importance, as showing the real work for which the institution is established. *None of the work* complained of need go to the Hospital; it is the work of the optician, and Bristol has qualified opticians capable of testing and correcting defects of vision, who would send all cases of disease and abnormality to the Hospital, or an oculist, *according to the circumstances* of the person, and thus enable the institution to fulfil its functions with even greater efficiency than at present.

Yours truly,
March 29th, 1907. M. W. DUNSCOMBE.

We still do not consider Mr. Dunscombe or any other optician as capable of diagnosing diseases of the eye.

THE METROPOLITAN WATER BOARD AND ITS PROPOSED MEDICAL OFFICERS.

To the Editors of THE LANCET.

SIRS,—I inclose a letter I have received from the Metropolitan Water Board upon which, as a matter of interest to medical men, I should like to have your opinion. Is it possible that a public body expects a medical man to examine properly one of their employees and give a certificate, presumably in confirmation or otherwise of the employee's own medical attendant's opinion, and perhaps have to travel two or three miles to do this, for half-a-crown? Personally I have declined it on the ground that I could not do justice to the Board upon such terms. Considering that there is no question of charity here surely this is worse than the half-guinea for an examination for life insurance, of which we rightly complain as being so grossly unfair.

I am, Sirs, yours faithfully,
April 15th, 1907. M.B. LONDON.

*** The letter in question states that the Board proposed to appoint of a total number of 107 county authorities have approved the employment of veterinary surgeons for the purpose of Section 43 of the Public Health Scotland Act, 1897.

The Medical Officer to the Tokio Embassy.

Sir WILLIAM COLLINS asked the Secretary of State for Foreign Affairs whether an appointment to the medical officership to the British Embassy at Tokio was made in the early part of this year; if so, whether the vacancy was advertised; whether the gentleman appointed was a *British subject*; and, if not, whether he held any medical qualification recognised as registrable by the General Medical Council.—*Sir* EDWARD GREY *(by written answer) replied: There* was no vacancy. The medical adviser to His Majesty's Embassy proceeded on leave and made *arrangements for a competent substitute to act* during his absence.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

BERTRAM-HILL, W., M.B. Manch., has been appointed House Surgeon at the Hospital for Women and Children, Leeds.

FINZI, NEVILLE S., M.B. Lond., M.R.C.S., L.R.C.P., L.S.A., has been appointed Medical Officer in Charge of the Electrical Department, Metropolitan Hospital, N.E.

FISHER, H. R., M.B. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Fillongley District of the county of Warwick.

GRIMBLY, RICHARD HENRY, M.R.C.S., L.S.A., has been appointed Medical Officer for the Ippledon District by the Newton Abbot (Devon) Board of Guardians.

HARMER, JOHN D., M.B., Ch.B. Edin., has been appointed House Surgeon at the Royal Devon and Exeter Hospital, Exeter.

HINGSTON, CHARLES ALBERT, M.D., B.Sc. Lond., M.R.C.S., has been re-appointed Honorary Physician to the Crownhill Convalescent Home, near Plymouth.

HOWELL, ALFRED, M.D. Lond., has been appointed Honorary Assistant Physician to the Cardiff Infirmary.

KELLAS, ARTHUR, M.B., Ch.B., D.P.H. Aberd., has been appointed Resident Medical Officer at the Aberdeen Sick Children's Hospital.

LEWIS, W. J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ystalyfera District of the counties of Brecknock and Glamorgan.

MCELWAINE, THOMAS, L.R.C.S. & P. Edin., L.F.P.S. Glasg., has been appointed Police Surgeon for the Borough of Devonport.

RUDGE, FREDERICK HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon at the Torbay Hospital, Torquay.

SHARP, ALEXANDER D., M.D. Brux., F.R.C.S. Edin., has been appointed Consulting Surgeon for Diseases of the Ear, Nose, and Throat at Noble's Isle of Man Hospital.

STEWART, J., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Beith District of the county of Ayr.

TAYLOR, A. E., M.B., M.S. Edin., has been appointed Honorary Physician to the Cardiff Infirmary.

WEBB, H. GORDON, M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon at the Tottenham Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYRSHIRE, CUNINGHAME COMBINATION POORHOUSE.—Medical Superintendent. Salary £300 per annum, with house, fuel, light, &c.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100.

BRIDGWATER HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £80 per annum, with board, residence, and washing.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

CANCER HOSPITAL, Fulham-road, London, S.W.—House Surgeon.

CARMARTHEN, JOINT COUNTIES LUNATIC ASYLUM.—Medical Superintendent. Salary £450 per annum, with house, fire, light, and washing. Also Assistant Medical Officer. Salary £200 per annum, with board, lodging, washing, and attendance.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 a year, with board, apartments, and laundress.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park E. Physician to Out-patients.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months. Salary £60 per annum, with rooms, board, washing, and attendance.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—House Physician, House Surgeon, and Assistant House Surgeon. Salary of two former £83 and of latter £70 per annum, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GLOUCESTER, GENERAL INFIRMARY AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Assistant Surgeon. Also Assistant House Surgeon for six months. Salary at rate of £30 per annum, with board, residence, and washing.

GUY'S HOSPITAL DENTAL SCHOOL.—Travelling Scholarship. Value £100.

HARTSHILL, STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.—House Physician. Salary £100 per annum, with apartments, board, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—Third House Surgeon. Salary £50.

LEEDS GENERAL INFIRMARY.—House Physician for six months.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board and residence.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon and Anæsthetist, unmarried. Salary £50, with board, lodging, and washing.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Surgeon. Also Assistant Surgeon.

MILLER HOSPITAL, Greenwich road, S.E.—Junior House Surgeon. Salary at rate of £80 per annum, with board, attendance, and washing.

NATIONAL DENTAL HOSPITAL AND COLLEGE, Great Portland-street, W.—Anæsthetist.

NORTHAMPTON, BERRY WOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150, increasing to £200, with board, lodging, washing, and attendance.

OLDHAM UNION.—Resident Medical Officer, unmarried. Salary £120 per annum, with residence, coal, gas, rations, washing, and attendance.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Surgeon to the Eye Department.

ROCHDALE INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

ROYAL EAR HOSPITAL, Dean-street, Soho, W.—House Surgeon for six months. Salary at rate of £40 per annum.

ROYAL NAVY MEDICAL DEPARTMENT.—Examination of Candidates for Entry.

ST. BARTHOLOMEW'S HOSPITAL.—Assistant Physician-Accoucheur, Assistant Surgeon, and Assistant Aural Surgeon.

ST. MARY'S HOSPITAL, Paddington, W.—Physician-in-Charge of Out-Patients.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

WADSLEY, NEAR SHEFFIELD, WEST RIDING ASYLUM.—Fifth Assistant Medical Officer. Salary £140, rising to £160, with board, &c.

WALSALL AND DISTRICT HOSPITAL.—Junior House Surgeon. Salary £50 per annum, with board, residence, and washing.

WANDSWORTH UNION INFIRMARY, St. John's Hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried. Salary at rate of £100 a year, with board, lodging, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £50 per annum, with board, residence, and washing. Also House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, &c., 73, Welbeck-street, London, W.—Resident House Physician and Medical Registrar. Salary at rate of 60 guineas per annum, with board, washing, and attendance.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Officer-in-Charge of X-Ray Department.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £65, rising to £75, with board, residence, &c. Also Honorary Physician in Ordinary.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Bromyard, in the county of Hereford.

Births, Marriages, and Deaths.

BIRTHS.

FAWCETT.—On April 25th, at 66, Wimpole-street, W., the wife of John Fawcett, M.D., of a son.

GAMAN.—On April 26th, at Caistor House, Caistor, Lincolnshire, the wife of F. R. S. Gaman, M.R.C.S., L.R.C.P., of a daughter.

VISGER.—On April 30th, 1907, at Elm Lodge, Clevedon, the wife of Charles Visger, M.R.C.S., of a daughter.

MARRIAGE.

GAYNER—HEYCOCK.—On April 25th, at Great St. Mary's Church, Cambridge, Francis Gayner, M.A., M.R.C.S., L.R.C.P., to Emily Bertha, elder daughter of Charles T. Heycock, F.R.S., Fellow of King's College, Cambridge.

DEATHS.

HUGHES.—On April 24th, at Bronwendon, Penmaenmawr, North Wales, in his 82nd year, Robert Hughes, M.D.

SKERRITT.—On April 29th, at Ivor House, Durdham Park, Clifton, Bristol, Edward Markham Skerritt, M.D., F.R.C.P., Senior Physician to the Bristol General Hospital, aged 65.

WILSON.—On April 26th, at Denham House, Goldhawk-road, London, W., Enid May, aged two years, youngest daughter of James Wilson, M.D.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (6th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: *Medical and Surgical Clinics.* X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. *Lecture*:—Prof. W. Wright: The Prehistoric and Early Historic Inhabitants of England (with lantern slides).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. H. Sequeira: Clinique. (Skin.) 5.15 P.M.: Lecture:—Mr. J. Sherren: Remarks on the Surgery of the Brachial Plexus

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham), Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. 2.15 P.M.: Special Lecture:—Sir Dyce Duckworth: Treatment of Cardiac Dilatation.

TUESDAY (7th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. Taylor: Clinique. (Medical.) 5.15 P.M.: Lecture:—Sir W. R. Gowers: The Diagnosis and Treatment of Sudden Cerebral Lesions.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. Abercrombie: Nose and Accessory Sinuses.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Lecture:—Dr. Batten: Cerebro-spinal Meningitis.

WEDNESDAY (8th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Dr. Robinson: Diseases of Women.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. *Lecture*:—Prof. W. Wright: The Prehistoric and Early Historic Inhabitants of England (with lantern slides).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street W.C.).—4 P.M.: Mr. P. L. Daniel: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. J. Horne: Foreign Bodies in the Ear, Gullet, and Air Passages.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye. 3.30 P.M.: Special Lecture:—Mr. Cargill: Treatment of Ocular Injuries.

THURSDAY (9th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. R. Hutchison: Mucous Colitis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel). 4.30 P.M.: Demonstration of Medical Cases (Dr. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 3.15 P.M.: Special Lecture:—Sir W. Bennett: Some Points in the Radical Cure of Hernia.

CHARING CROSS HOSPITAL.—4 P.M.: Mr. Wallis: Demonstration (Surgical). (Post-Graduate Course.)

FRIDAY (10th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. *Lecture*:—Prof. W. Wright: The Prehistoric and Early Historic Inhabitants of England (with lantern slides).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr StClair Thomson: Clinique. (Throat.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.)—3.30 P.M.: Lecture:—Dr. Batten: Acute Ataxia.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration.

SATURDAY (11th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. *X Rays. 2.30 P.M.: Operations. Dr. Robinson: Diseases of Women.*

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

district medical officers for the purpose of medically examining members of the staff absent on account of ill-health. The conditions laid down by the Board for acceptance by the medical man, supposing that he is appointed, are as follows:—

> "That the district medical officers be paid a fee of 2*s.* 6*d.* for each examination, it being understood that, whenever practicable, the person requiring a certificate should attend at the doctor's residence, and that if this is impracticable the doctor should make an examination at the employee's own residence."

We do not understand why the employee, if ill, could not furnish a certificate which would be satisfactory to the Board from his own medical man. For such certificate the Board should pay, say, 5s.—ED. L.

A NEW CORSET.

WE have had sent to us for inspection a specimen of a new corset to which the deviser has given the ambitious name of the Health Unbreakable Corset. The special feature of this invention is the replacement of the usual steel busks by leather supports at the sides, while the front busk is lined with leather. We have received a favourable report of the corsets from a wearer to whom we gave our sample and who submitted it to a practical trial for a month. The corset is stated to be "more comfortable than any previously worn, gives greater freedom during exercise and work, and none of the busks have broken." There is not any particularly medical feature about the invention, but no medical man is ignorant of the advantages that a good fitting, pliable, and comfortable corset offers to his female patients. As a rule, the cheap corset does not possess the necessary qualities; its pressures are rigidly and badly distributed, its structure causes it both to wear out easily and to lacerate contiguous garments; and æsthetic charms are absent. Mrs. O'Leary, 4, *Cotham-street, Walworth, S.E., seems to us to be* able to supply the public at a reasonable figure with a useful article, for, although as much as 5 guineas can be spent upon the Health Unbreakable Corset, 8*s.* will purchase the humbler makes. The leather in the corsets while quite new may seem a little stiff, but just as new boots in a short space of time accommodate themselves to the feet, so the leather busks accommodate themselves to the wearer's ribs. The use of leather in this way will be a double saving of expense—the corsets should last longer and so should the underclothes worn next to them.

BOOK CANVASSERS.

To the Editors of THE LANCET.

SIRS,—In the *British Medical Journal* of April 20th, p. 968, there appears a paragraph under heading "Book Canvassers." This was inserted at my instigation in the hopes that the medical profession might be placed upon their guard against the firm in question and more so against signing their names to documents permitting a specimen copy to be sent to them. I was astonished to receive the book in question and immediately returned it (within an hour) by registered post. Nevertheless, I was sued and have this morning had to pay £5 5*s.* for the book (which is valueless to me) and £2 17*s.* 3*d.* costs. I am writing in the sincere hopes that you may feel justified in warning all your readers, but especially *county* ones, for I understand *each county will be canvassed* in rotation.—I am, Sirs, yours faithfully,

April 30th, 1907. COLLINGWOOD FENWICK.

THE THERMOS FLASK.

A FEW simple practical experiments suffice to show the number of useful purposes which the Thermos flask can serve. We are not told in what way the flask is so perfectly insulated that it virtually keeps liquids hot for 24 hours or iced liquids cold for weeks, but such is the fact. Tea made in the early morning and placed in this flask is quite hot enough to drink in the afternoon. Liquid food placed in the Thermos flask before retiring to rest will keep its temperature throughout the night. In 24 hours we found that water placed in the flask at an initial temperature of 180° F. fell to 114·8°. The average fall of temperature over 24 hours was thus about 2·7 degrees per hour. The depreciation of temperature is most rapid during the first few hours, the fall later being hardly two degrees per hour. It is unnecessary to point out what a number of useful applications there are to which this ingenious device may be put, ministering, as it can be made to do, to so many domestic comforts. For travellers cyclists, railway passengers, invalids, nurses, and so forth, this invention will come as a real blessing. The specimen flask with which we made our experiments was submitted to us by Messrs. Lawson, Ward, and Gammage, of 5, Hatton-garden, London, E.C.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received —*Wigan Examiner. Daily Dispatch (Manchester), Birmingham Herald, Morning Leader. Daily Telegraph, Morning Post. Standard. Daily Mail. Daily News, Tribune, Manchester Courier Coventry Standard. Aberdeen Gazette Birmingham Gazette, Liverpool Echo. St. Pancras Gazette Sheffield Evening Telegraph, Sheffield Daily Telegraph, Newcastle Daily Journal, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 2nd, 1907.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 26	30·07	S.	0·31	51	45	44	43	44	Raining
„ 27	29·85	E.	0·36	102	51	36	37	40	Fine
„ 28	29·85	N.	0·02	97	53	40	41	45	Cloudy
„ 29	29·75	N.W.	0·09	81	55	41	46	49	Cloudy
„ 30	29·68	W.	—	85	54	42	43	45	Raining
May 1	29·76	N.W.	0·25	69	52	41	41	43	Raining
„ 2	29·36	W.	0·10	106	54	42	47	51	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children. Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.). Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.). Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, *Golden-square* (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (7th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.)—8.30 P.M.: Papers:—Prof. A. S. Grünbaum: A Case of Inoculated Syphilis in the Chimpanzee.—Dr F A. Bainbridge and Dr. P. R. Parkinson The Morbid Histology of the Suprarenal Glands—Dr. W. O. Meek: A Rare Variety of Cardiac Degeneration

WEDNESDAY (8th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish square, W.).—5.15 P.M.: *Meeting.*

THURSDAY (9th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Paper:—Dr. A. E. Giles: Observations on the Surgical Treatment of Inflammatory Diseases of the Uterine Appendages based on a Series of 120 Cases

HARVEIAN SOCIETY OF LONDON (Hospital for Paralysed and Epileptic, Maida Vale, N.W.)—8.30 P.M.: Clinical Evening. Cases will be shown by Dr. L. Guthrie, Dr. W. T. Harris, Dr. O. Singer, and others.

FRIDAY (10th).—BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION (11, Chandos-street, Cavendish-square, W.).—4.30 P.M.: Cases and Specimens.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Papers:—Mr. Sherren: Gastro enterostomy for Chronic Gastric Ulcer; Healing of Ulcer Verified at *Post-mortem Examination* 28 months later.—Dr. H French and Dr. M. G. Louisson: Upon the Extent to which Widal's Reaction persists after Recovery from Typhoid Fever—Dr L. Guthrie and Dr. W. d'E. Emery: Precocious Obesity and Hirsuties with Hypernephrosis.

The Oliver-Sharpey Lectures

ON

NEW FACTS IN RELATION TO THE PROCESSES OF NERVOUS DEGENERATION AND REGENERATION.

Delivered before the Royal College of Physicians of London on April 25th and 30th,

BY W. D. HALLIBURTON, M.D. LOND., LL.D., F.R.S., F.R.C.P. LOND.,
PROFESSOR OF PHYSIOLOGY, KING'S COLLEGE, LONDON.

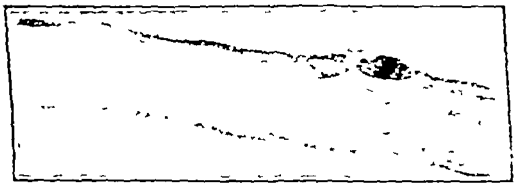
LECTURE II.[1]

Delivered on April 30th.

REGENERATION OF NERVES.

MR. PRESIDENT AND FELLOWS,—The chemical meaning of nervous degeneration, to which I alluded in the first lecture, was studied by Mott and myself in correlation with the anatomical appearances which are observable by the microscope. We found it impossible to study this question without taking into account the closely related subject of nerve regeneration. From the microscopic study of the distal portions of divided nerve trunks we arrived at the conclusion that the activity of the neurilemmal cells has some relation to the development of the new nerve fibres. At any early stage in degeneration their nuclei multiply; later they participate with phagocytes in the removal of the broken-up myelin droplets; subsequently they elongate, and becoming connected end to end lead to the formation of what some have termed "embryonic nerve fibres." These three stages are illustrated by the drawings from micro-photographs shown in Figs. 6, 7, and 8. We were, however, extremely doubtful whether this appearance really indicated the formation of real nerve fibres capable of conducting impulses, and felt that such incomplete observations could not be considered as serious objections to the view of those who, from Waller onwards, have taught that the axis-cylinder is a branch of a nerve cell which grows towards the periphery. In the further investigation of the problem, Mr. Arthur Edmunds joined Mott and myself, and we arrived finally at the conclusion similar to that which Howell and Huber reached 15 years ago, that, although the peripheral structures are active in preparing the scaffolding, the axis-cylinder which is the essential portion of a nerve fibre has an exclusively central origin.

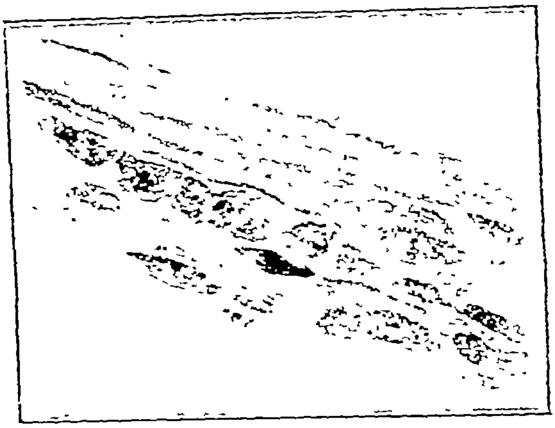
FIG. 6.



Degenerated nerve fibre in a cat's sciatic nerve eight days after the nerve had been cut, showing division of a neurilemmal nucleus. The preparation was stained with logwood, and the drawing is made from Mott's photomicrograph of the preparation by Miss Helen Kelley.

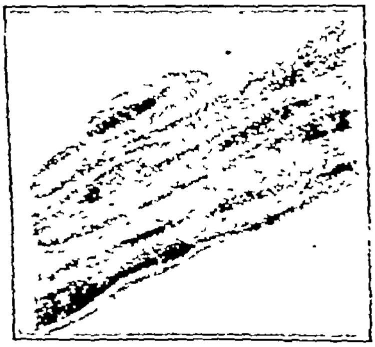
Before I present to you the evidence on which this conclusion is based I must allude first to the work of other observers, for since our investigation started the subject has risen into some prominence. Some workers, such as Purves Stewart and Ballance in this country and Bethe in Germany, have advanced the view that the new fibres have a peripheral origin, while others, such as Langley and Anderson and S. Ramon Cajal, have defended the older Wallerian doctrine. In a preliminary notice which we published a year or two ago of our own work we suggested that the manifest activity of the neurilemmal cells is related nutritionally to the successful repair of a divided nerve, for in situations like the central nervous system, where the neurilemma is non-existent, not only is the removal of degenerated myelin a very slow process but, as is well known, regeneration does not occur. When the nerve is regenerated and conducts impulses the strands of neurilemmal cells are seen to be situated outside the new axis-cylinder and in longitudinal view the latter is thus often concealed; but on transverse section the axis-cylinder is seen to be quite distinct within the sheath, although the neurilemmal nuclei retain an abnormal thickness for some time (see Fig. 9).

FIG. 7.



Degenerated bundle of nerve fibres in longitudinal view in cat's sciatic nerve 27 days after the nerve had been cut. A chain of neurilemmal cells is seen filled with oil droplets (stained black by Marchi's reagent), and evidently exercising a phagocytic action in the removal of degenerated myelin. (Photomicrograph by Mott, drawing by H. Kelley.)

FIG. 8.



Longitudinal view of nerve fibre in cat's sciatic nerve 44 days after the nerve had been cut. By this time absorption of the degenerated myelin was complete and the neurilemmal cells have elongated and in parts joined end to end as described in the text. (Photomicrograph by Mott, drawing by H. Kelley.)

Professor Graham Kerr, in his recent study of the development of motor nerves, has in an entirely independent manner supported this view of the nutritional importance of the neurilemmal sheath. In the fish, *Lepidosiren*, that he has mainly studied, the early motor nerve fibres are at first naked, but later masses of nucleated mesenchymatous protoplasm apply themselves to the nerve trunk, and gradually spread over it. As development goes on the yolk in these masses is used up, their protoplasm becomes less and less conspicuous, and eventually is only to be detected in the immediate vicinity of the nuclei. It is thus clear that the great function of the sheath is as a nutritive organ. Kerr points out that the main function of nuclei apart from reproduction is to control cytoplasmic metabolism, and that the nuclei of the sheath are able to exercise this control over

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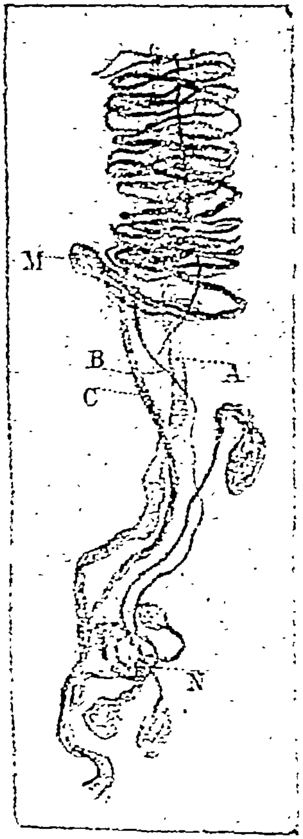
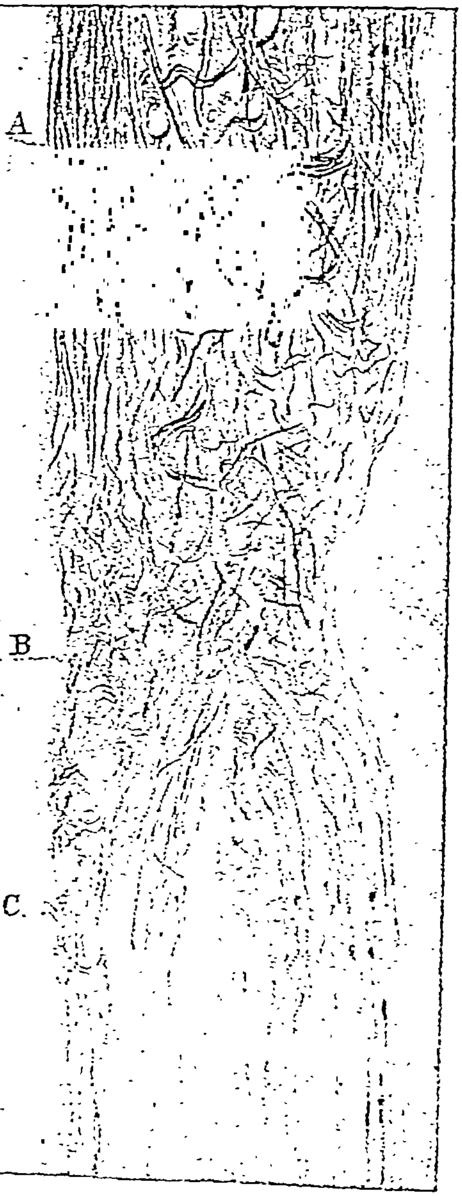
inexcitable. These experiments, like Bethe's, were mostly performed upon young animals—kittens and rabbits, and in some, after a period of nearly two years, no trace of autogenetically formed nerve fibres could be detected. All the medullated nerve fibres found in the peripheral end of a cut nerve, which had been sutured to the central end, degenerated when the central end was again cut nearer the spinal cord; in other words, all the nerve fibres were fibres which were connected with the central nervous system. If the regeneration had been autogenetic, this would mean that every one of them had become united with the end of a nerve fibre in the central stump; on the autogenetic theory this is highly unlikely, whereas it is quite simply accounted for on Wallerian lines. If the number of medullated fibres in the peripheral end was small then the connexion with the central end was found to be slight. If no connexion occurred, then medullated nerve fibres were entirely absent. Bethe admits a variability in the number of medullated fibres, and this again, though easily explicable on the view that such fibres come from the central end, is not accounted for at all by the autogenetic theory. Langley and Anderson further point out that Bethe admits age to be an important factor in the case; in adult animals he has little or no proof of autogenetic regeneration. This is a very weak point, for surely the difference is due to the greater ease with which reunion with central nerves occurs in young and growing animals. Lugaro objects to Bethe's views on much the same lines as Langley and Anderson, and in his latest paper has shown that regeneration of nerves connected with the lower part of the spinal cord does not occur after the lumbo-sacral region of the cord has been extirpated. This is a very striking piece of evidence on the dependence of the growth of fibres on the activity of the cells of the central nervous system with which they are connected. Cajal, from the histological point of view, has made a very complete rejoinder to Bethe's work. He has also controlled his results by noting the effect of stimulating the nerves. By the help of his new silver method he comes to the conclusion that the new formation of nerve fibres in the peripheral stump is exclusively due to growth from the central end. He describes the long and often contorted course of these growing fibres in the swelling at the cut central end, and shows that they ultimately reach their goal—the peripheral stump—in time, and in spite of all hindrances. The greater the obstacles interposed the later do the union and consequent regeneration in the peripheral end occur. He also calls attention to the olive-shaped swelling at the free end of each growing axis-cylinder. These are also figured by Marinesco. I am indebted to the kindness of Professor Marinesco for the next

FIG. 11.



Spiral form often seen in regenerating nerve fibres. A, large myelinated fibre; B, fine fibre; C, fibre of intermediate size; M, terminal swelling of the fibre which has become contorted; N, group of terminal swellings. (Rabbit's nerve 20 days after section. Marinesco.)

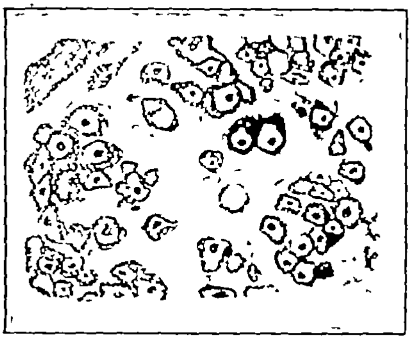
FIG. 12.



Longitudinal section of sciatic nerve of newly born dog, eight days after the nerve had been divided. Union had already taken place. At the extremity of the central end (A) growing fibres are seen running in various directions towards the cicatrix (B); C is the peripheral end into which a few fibres are already penetrating. (Marinesco.)

the active metabolism of the developing nerve trunk which is destitute of nuclei of its own. Connected with this relation is no doubt the active multiplication of these nuclei observed in early stages of nerve regeneration. Whether this control is able to act so far as to produce true nerve fibrillæ in a regenerating fibre, as Kerr further suggests, I am inclined to doubt, for we have never seen anything of the nature of an axis-cylinder or neuro-fibrillæ in the peripheral segment of a divided nerve, provided connexion with the central end is successfully prevented. I am also unable to accept his view that the original nerve trunk exists from the first as a link which increases in length as the animal grows. It is impossible on such a hypothesis to explain how a gap an inch or more long can be bridged across when one excises, as we have done in some of our experiments, a portion of nerve of that length. The union that occurs often very rapidly, even when the ends are not sutured together, must be due to growth of nerve fibres from the central to the peripheral stump, or in the reverse direction. It is also on *a priori* grounds most improbable that the mesoblastic cells which make up the neurilemma could give rise to such a highly specialised structure as the axis-cylinder, which so far as is known is exclusively epiblastic in origin.

FIG. 9.

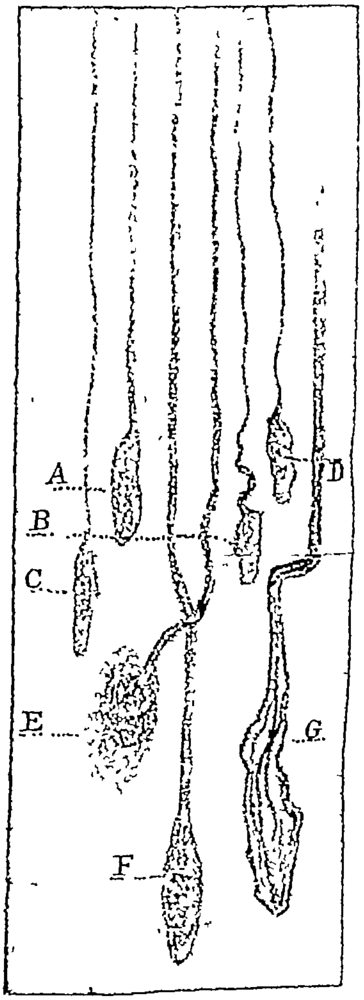


Transverse section of regenerated nerve bundle of cat's sciatic nerve 108 days after the nerve had been cut. The new nerve fibres are much smaller in diameter than those they replaced; the abnormal thickness of the neurilemmal nuclei referred to in the text is well shown in many of the fibres. The preparation was stained with logwood and photographed by Dr. Mott; the drawing from the photograph was made, as in preceding figures, by Miss Kelley.

The propositions maintained by Waller—namely, the integrity of the central end of a cut nerve, the degeneration of the peripheral segment, and its regeneration by means of fibres growing out distalwards from the central stump—were questioned a few years later by Vulpian and Philippeaux. These observers cut nerves in various animals, mainly young ones, excising long portions to prevent union with the central end. Some months later they were surprised to find that the peripheral ends had regenerated and were excitable; to this phenomenon they gave the name of "autogenetic regeneration." These results were regarded with so much scepticism by most writers that some years later Vulpian repeated his experiments. He obtained the same results as before, but this time put forward a new explanation; in fact, he adopted the Wallerian doctrine because he found that connexion with the central nervous system had been re-established by means of fibres growing into the peripheral stump from other nerves in the neighbourhood. This connexion he had missed in his earlier work. He had also, with Philippeaux, observed regeneration in portions of a nerve transplanted under the skin of the abdomen, but as a result of his later work explained this in the same way.

In the revival of the controversy that has taken place within the last few years the position of the disputants has been almost exactly the same as that occupied by Waller and Vulpian more than half a century ago. The evidence which Ballance and Purves Stewart have advanced in favour of autogenesis is purely histological. In the absence of any proof that the so-called nerve fibres are excitable and capable of conducting impulses, I regard it as probable that these observers have mistaken for nerve fibres the chains of neurilemmal cells which undoubtedly form in the peripheral portions of divided nerve trunks. Bethe is at present the most prominent supporter of the autogenetic theory. He finds that the peripheral segments of cut nerves are in young animals after a time excitable without union with the central ends. He does not, however, exclude the fallacy which underlay the old experiments of Vulpian and Philippeaux and which has been more recently pointed out by Langley and Anderson. These observers showed that, in spite of any obvious connecting strand with the central end, new nerve fibres find their way, often by devious channels, into the peripheral stump from nerves in skin and muscle cut through in the operation. At the commencement of their work Langley and Anderson thought they had obtained evidence of purely peripheral regeneration, and it was not until they carried out careful dissections that they convinced themselves that union with the central nervous system had occurred in the manner just mentioned. They therefore once more cut the central portion of the nerve and of any other nerves which might possibly have established a connexion with the peripheral segment of the nerve they had under observation. The second operation would cause degeneration of the fibres which had established a central connexion and leave intact any fibres which had regenerated autogenetically. Even this was not always sufficient to prevent reunion once again of the peripheral end with the central nervous system. But in cases of success no autogenetically formed nerve fibres were found. From eight to 12 days after the second operation no sound medullated fibres were found in the peripheral end, and the nerve was quite

FIG. 10.



Olive-shaped swellings (A to G) at the ends of nerve fibres growing downwards from the central end, 21 days after the nerve had been divided. Differences in the external form of these swellings will be noticed (Marinesco).

inexcitable. These experiments, like Bethe's, were mostly performed upon young animals—kittens and rabbits, and in some, after a period of nearly two years, no trace of autogenetically formed nerve fibres could be detected. All the medullated nerve fibres found in the peripheral end of a cut nerve, which had been sutured to the central end, degenerated when the central end was again cut nearer the spinal cord; in other words, all the nerve fibres were fibres which were connected with the central nervous system. If the regeneration had been autogenetic, this would mean that every one of them had become united with the end of a nerve fibre in the central stump; on the autogenetic theory this is highly unlikely, whereas it is quite simply accounted for on Wallerian lines. If the number of medullated fibres in the peripheral end was small then the connexion with the central end was found *to be* slight. If no connexion occurred, then medullated nerve fibres were entirely absent. Bethe admits a variability in the number of medullated fibres, and this again, though easily explicable on the view that such fibres come *from* the central end, is not accounted for at all by the autogenetic theory. Langley and Anderson further point out that Bethe admits age to be an important factor in the case; in adult animals he has little or no proof of autogenetic regeneration. This is a very weak point, for surely the difference is due to the greater ease with which reunion with central nerves occurs in young and growing animals. Lugaro objects to Bethe's views on much the same lines as Langley and Anderson, and in his latest paper has shown that regeneration of nerves connected with the *lower* part of the spinal cord does not occur after the lumbo-sacral region of the cord has been extirpated. This is a very striking piece of evidence on the dependence of the growth of fibres on the activity of the cells of the central nervous system with which they are connected. Cajal, from the histological point of view, has made a very complete rejoinder to Bethe's work. He has also controlled his results by noting the effect of stimulating the nerves. By the help of his new silver method he comes to the conclusion that the new formation of nerve fibres in the peripheral stump is exclusively due to growth from the central end. He describes the long and often contorted course of these growing fibres in the swelling at the cut central end, and shows that they ultimately reach their goal—the peripheral stump—in time, and in spite of all hindrances. The greater the obstacles interposed the later do the union and consequent regeneration in the peripheral end occur. He also calls attention to the olive-shaped swelling at the free end of each growing axis-cylinder. These are also figured by Marinesco. I am indebted to the kindness of Professor Marinesco for the next

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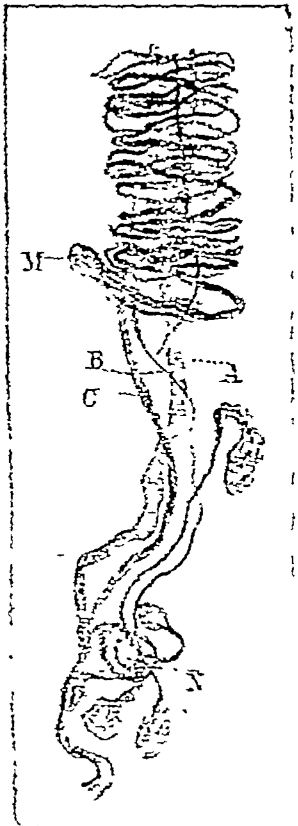
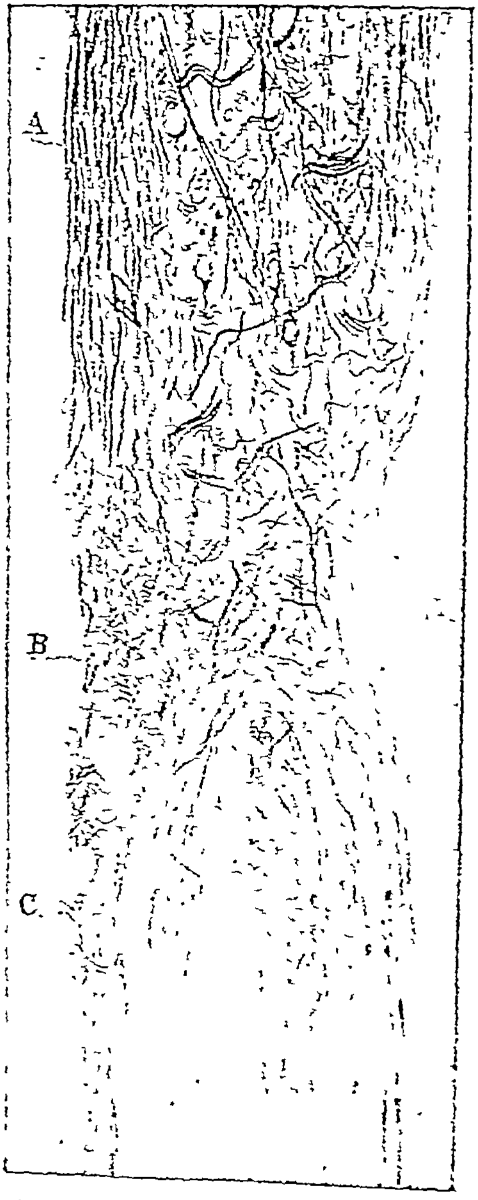


Spiral form often seen in regenerating nerve fibres. A, large myelinated fibre; B, fine fibre; C, fibre of intermediate size; M, terminal swelling of the fibre which has become contorted; N, group of terminal swellings. (Rabbit's nerve 20 days after section. Marinesco.)

FIG. 12.

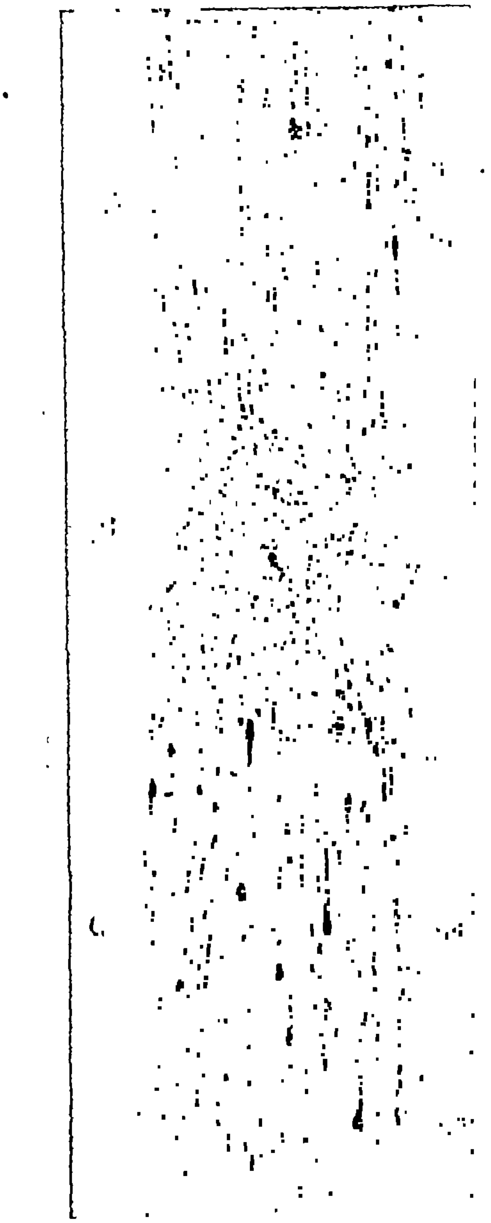


Longitudinal section of sciatic nerve of newly born dog, eight days after the nerve had been divided. Union had already taken place. At the extremity of the central end (A) growing fibres are seen running in various directions towards the cicatrix (B); C is the peripheral end into which a few fibres are already penetrating. (Marinesco.)

two figures. Fig. 10 illustrates the swelling at the termination of growing axons, and Fig. 11 the convoluted course of the new fibres which is so frequently seen.

Marinesco has passed through the phase so often seen in those who have attacked the problem of nerve repair. He was never a thorough believer in Bethe's views, but in his earlier publications felt obliged to admit that some of his preparations afforded evidence of auto-regeneration. In his last published paper he has recanted these views and is now convinced that auto-regeneration does not take place. I reproduce two very striking illustrations from the numerous figures which he has published. The preparations were stained by Cajal's new method and the reproductions (Figs. 12 and 13) require no comment; they speak for themselves, and ought to carry conviction to those who believe in the autogenetic theory that the Wallerian view is the only possible one to adopt. Marinesco does not believe that the neurilemmal cells act as phagocytes, but otherwise he ranges himself by the side of Cajal and ourselves.

FIG. 13.



Longitudinal section of vagus nerve of dog 21 days after the nerve had been divided. A more advanced condition than that shown in Fig. 12. A is the central end, B the cicatrix of union where the new fibres are seen in great numbers, and taking an irregular course. Into C, the peripheral end, many fibres have already successfully penetrated. m, m′, m″, &c., are the terminal swellings of fibres growing from the central stump, and directed towards the periphery, except in the case of m″, where the twisting of the new fibre in its efforts to grow had at the time when the animal was killed directed the termination backwards. (Marinesco.)

Many surgeons have been steadfast upholders of the autogenetic theory, because they have found that in man (including adults, in spite of Bethe) sensation may rapidly return after freshening up and suturing together the ends of a nerve which had been divided a long time previously. Such clinical observations would be valuable evidence in favour of the "peripheral theory," if it were entirely trustworthy. Mr. Edmunds, then surgical registrar at King's College Hospital, had recently the opportunity of observing carefully one of these cases, and it throws a useful light on the subject. A short time after the operation the patient stated he was able to feel, but these sensations rapidly subsided, and sensation did not really return until months later. The preliminary sensations were doubtless subjective; the irritation of the nerve fibres in the scar lasted some hours, and the sensations so produced were referred by the patient's mind to the original terminals of the fibres.

At the meeting of the British Medical Association in Oxford in 1904 Dr. R. Kennedy of Glasgow brought forward a number of cases in support of the autogenetic theory. Here, again, the genuineness of the early recovery is doubtful, because no care appears to have been taken to distinguish real cutaneous from deep sensibility. Head and Sherren have also recorded a number of surgical cases, but they found no evidence of early recovery; they showed by very careful work that the deep sensibility of the subjacent parts, such as would be excited by the pressure even of the finger, is entirely independent of cutaneous sensation. The fibres subserving this form of sensation run with the motor nerves and are not destroyed by division of all the nerves to the skin. The difficulty of obtaining absolutely trustworthy evidence from patients themselves induced Head to combine with his experiments on animals and his observations on patients an experiment on one of the sensory nerves of his own arm. This experiment gave an opportunity for the study of the phenomena by a trained observer upon himself. He certainly experienced no early return of function, and the date at which sensation did come back coincides closely with the dates obtained in animals by physiologists for the reappearance of new fibres. He has further made the interesting suggestion that the first kind of sensation to return and which is of a vague nature (termed *protopathic*) is associated with the activity of the fine medullated nerve fibres which replace the degenerated ones at an early stage. Return of protopathic sensibility begins about the eightieth day. The more elaborate sensations and power accurately to localise them return at a much later date, and this *epicritic sensibility*, as Head terms it, is usually not perfect until months or even years after the regeneration started. By this time, as was shown by experiments on animals, the fine nerve fibres which subserve protopathic sensation are largely admixed with a later growth of larger nerve fibres, and he believes epicritic sensation is subserved by these.

After this long introduction let me now pass on to describe the experiments which have been carried out by Mott, Edmunds, and myself. Every piece of confirmatory evidence is useful if the upholders of the autogenetic theory are to be convinced they are wrong. In some directions, moreover, our experiments have approached the problem in rather a different way from that followed by other workers. I will arrange what I have to say under five headings:—

(1) *Experiments in which union of central and peripheral ends was prevented.*—We had noticed early in the investigation that the excision of an inch or so of a nerve was entirely inefficient to prevent union of its two ends together; we were also aware of the danger (pointed out by Vulpian in his later work, and by Langley and Anderson, and Lugaro more recently) that the peripheral end may be invaded by nerve fibres growing into it from the nerves in skin and muscles divided in the operation. We therefore made extremely small incisions, and the parts were separated from the nerve trunks by the handle of the scalpel, and with as little cutting as possible. In cats one incision over the buttock allowed us to divide the sciatic nerve high up; another in the ham enabled us to divide the two popliteal nerves. The intervening portion of the sciatic nerve, about

four or five inches long, could then be easily pulled out. Additional security to prevent union with central fibres was in some cases obtained by inclosing the upper end of each popliteal nerve in closed caps made out of small sterilised drainage-tubes about half an inch long. A period of from 100 to 150 days was then allowed to elapse in order that if regeneration was going to occur in the peripheral segments of the nerve it might have an opportunity of doing so. At the end of this time the animal was again anæsthetised and the nerves were tested by electrical stimulation. In all cases they were entirely inexcitable to strong faradic currents, and the wasted muscles supplied by these nerves had also largely lost their power of response to this form of stimulation. To the naked eye the nerves were pale. The animals were then killed and the nerves subjected to microscopical investigation, but they were found to show no trace of regeneration. The chains of neurilemmal cells, without a sign of either axis-cylinder or medullary sheath, were all that could be seen, and in those cases of later date where the nerves had been placed in tubes it was very difficult to recognise any nervous structure whatever in the pieces actually inclosed within the tubes.

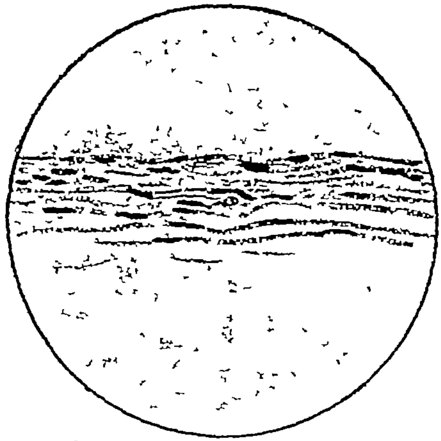
(2) *Experiments on transplanted pieces of nerve.*—As I have already stated, Vulpian and Philippeaux transplanted pieces of nerve under the skin of the abdomen and observed in them what they at first thought was evidence of auto-regeneration, a conclusion subsequently withdrawn by Vulpian. Similar experiments, recently published by Kennedy, are regarded by him as proving absolutely conclusively the autogenetic origin of nerve fibres. He excised a portion of the sciatic nerve and transplanted it into the subcutaneous tissues of the same animal. Six months later he killed the animal and examined the nerve which had been transplanted. He found among a number of degenerated fibres some which were definitely formed with a medullary sheath showing distinct nodes of Ranvier. He concluded that these fibres had been formed by the tissues of the excised portion of nerve. He conceives objectors to this deduction maintaining that these nerve fibres have grown into the sheaths of the transplanted nerve from cutaneous nerves divided in the course of the operation and meets this objection as follows:—

> Such an explanation is, I think, far-fetched, and assumes an extraordinary affinity between the supposed young nerve fibres and the old nerve trunk, an affinity which, if established, would, I am sure, secure almost certain spontaneous union of nerve trunks after division, unless very extraordinary barriers were placed between the divided ends
>
> The number of cases, however, in which secondary suture has to be performed shows that divided nerves cannot be confidently left to Nature to repair, which I am sure might almost uniformly be the case did such strong affinity between young nerve fibres and the distal degenerated segment exist.

It has, however, been shown that a large nerve trunk on division curls up at the end, forming a contorted leash of fibres. Further, a nerve trunk on division retracts and a considerable amount of scar tissue is formed This cicatricial tissue by the time the nerve has begun to regenerate has become dense fibrous tissue. In the case of nerve trunks, therefore, "extraordinary barriers" are the rule. Moreover, in spite of such barriers, spontaneous union often occurs, and in animals when the cut is made more cleanly than occurs in an accident in man and when antiseptics are used, the amount of cicatricial tissue formed is less and union may be confidently anticipated without suture, either immediate or secondary. In the case of small nerve trunks the case is also different; for example, after operations involving extensive skin incisions anæsthesia is always found on one side of the incision, varying in extent according to the direction of the incision and the number of cutaneous nerves divided. It is, however, the rule for these anæsthetic areas to recover completely.

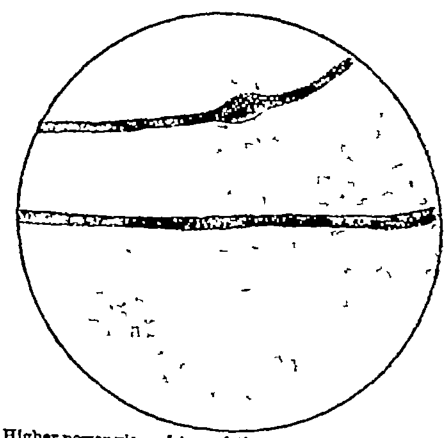
Again, when a longitudinal incision is made through the rectus abdominis muscle, it is very rare to find any permanent paralysis of portions of the muscle, although division of its nerves must be very common. Temporary paralysis, of course, must take place, but there is so little fear of ultimate paralysis and atrophy of the muscle that many surgeons prefer an incision through the rectus to any other method of performing laparotomy. To study this point further we repeated Kennedy's experiment, with the variation that a portion of a nerve was not only inserted underneath the skin, but a similar portion was inserted into the peritoneal cavity. The portion of sciatic nerve which had been previously removed from the same animal was laid on the anterior stomach wall. A row of Lembert sutures of catgut was then passed so as completely to inclose it in a sheath of stomach wall lined by peritoneum. In this way there was no possibility of nerve fibres growing in from the skin, and but little possibility of their coming from the stomach. As a control experiment a wisp of catgut was enveloped in the stomach wall in a precisely similar manner. After 150 days the animals were killed and the nerves examined. In those cases where the nutrition of the nerve had been effectually maintained the nerve could be readily seen both in the stomach wall and under the skin. It was thinner and more transparent than when it was inserted. It was examined in teased specimens and in sections. Each fibre looks like a long tube; there is no trace of a medullary sheath, neuro-fibrillæ, or axis-cylinder. At the point where the nucleus is situated there is usually no increase in the diameter of the fibre, the nucleus being either central or projecting into a central lumen In some fibres, on the other hand, there is a distinct swelling at the site of the nucleus and a considerable amount of protoplasm accumulated around it. These appearances are illustrated in Figs. 14 and 15. They are merely those which have been so often described in the peripheral segment of a divided nerve in which regeneration has not occurred and which all observers agree are due to neurilemmal activity.

FIG. 14.



Low power view of the appearances presented in a piece of nerve transplanted into the peritoneum 150 days previously (A. Edmunds.)

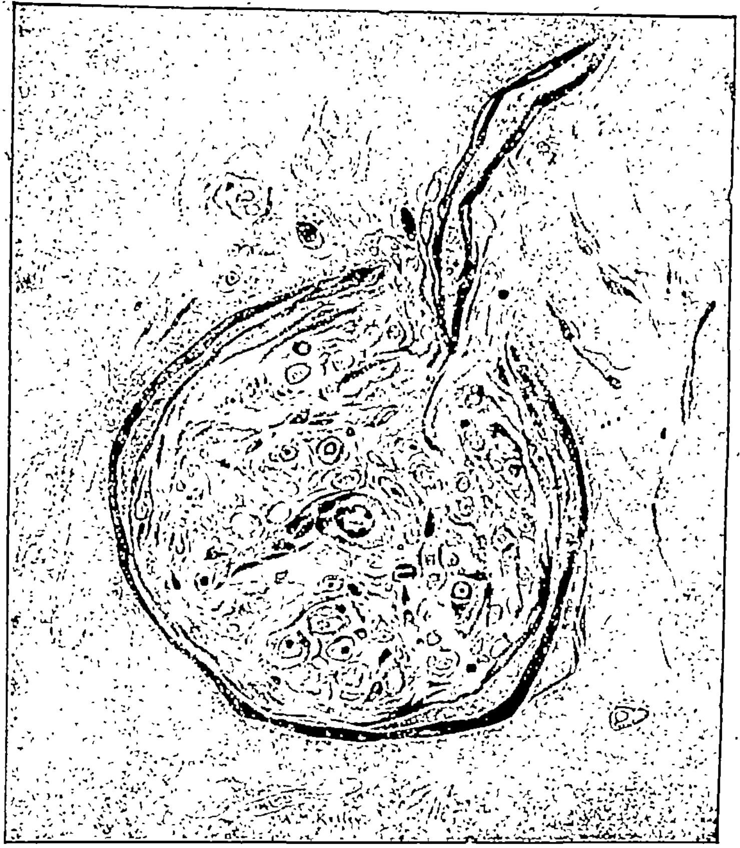
FIG. 15



Higher power view of two of the fibres (A. Edmunds.)

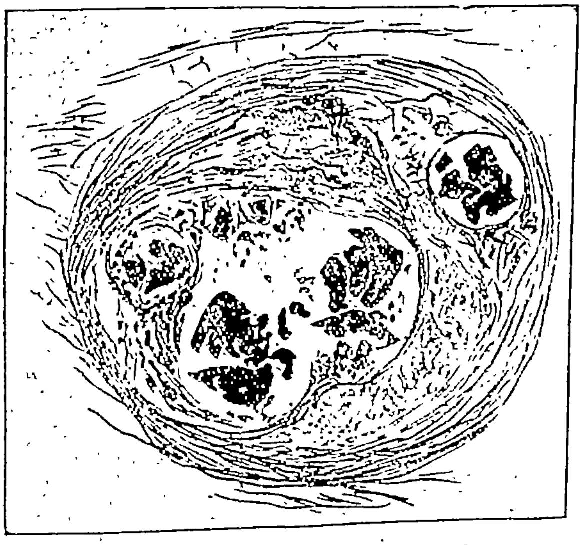
In cases where the nerve had been transplanted under the peritoneum, in which situation invasion by neighbouring nerves is nearly impossible, no medullated fibres could be found. In those cases where the nerve was transplanted under the skin careful search revealed the presence of a few medullated fibres It is difficult to explain the paucity of these fibres on Kennedy's hypothesis that they have formed autogenetically, seeing all the fibres were under precisely the same conditions; but it is easy to account for it if our view is adopted that the well-formed fibres were a few stray ones which had grown into the transplanted bundle from nerves cut through in the operation. The next figure (Fig. 16) illustrates how a blood-vessel breaks through the sheath into the substance of a degenerated nerve bundle, and from this it is a very small step to the irruption of nerve fibres into the interior of a transplanted nerve. The connective tissue between and around the bundles of nerve fibres retains its normal relationship but any structure of a similar shape becomes inclosed in a fibrous sheath unless it is completely absorbed. This is well illustrated in Fig. 17, which shows a transverse section of a strand of catgut which had been enveloped in the stomach wall; the connective tissue is seen to be organised around the catgut threads, forming a framework which strongly suggests the sheath of nerve fasciculi. Marinesco has shown that if a transplanted nerve is obtained from another species of animal (hetero-transplantation) it does not undergo the usual Wallerian changes, but is completely necrosed, just as the blood corpuscles of one animal are destroyed by the body fluids of another. The surgical method sometimes adopted of employing an animal's nerve to assist the regeneration of an excised portion of nerve in man is, therefore, rather a hindrance than a help.

FIG. 16.



A small blood-vessel entering the sheath of a fasciculus of transplanted nerve, as described in the text. 230 diameters. (Drawn by Miss Kelley from Mr. Edmunds's preparation.)

FIG. 17.

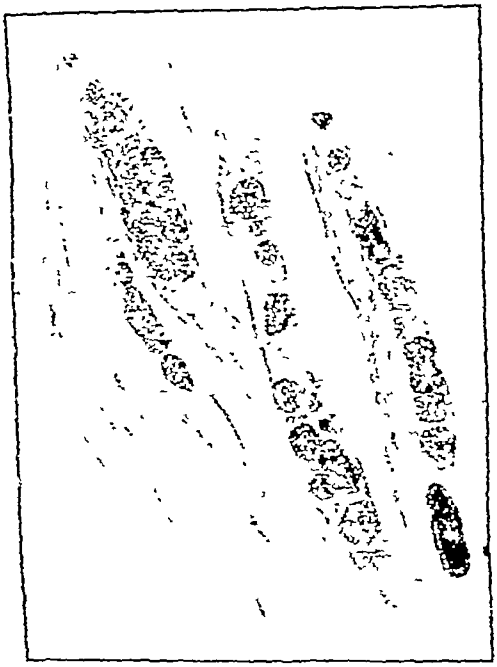


Transverse section of strand of catgut which has become surrounded by a sheath of connective tissue after being transplanted to beneath the peritoneum as described in the text. (A. Edmunds.)

(3) *Experiments on the degeneration of regenerated fibres.*—We performed these experiments at the suggestion of Professor Gotch. A large nerve was divided in an animal and the ends were sutured together with sterilised silk. After a sufficient length of time had elapsed restoration of function led us to suppose that regeneration had occurred. A second operation was then performed in each case. The animal was anæsthetised and the nerve was exposed; the union of the two ends was found to have been accomplished and the nerve was excitable both above and below the junction. A piece of nerve about half an inch long was then excised an inch or so below the jon tion. On histological examination of this a traces of degenerated products were foun to have disappeared and it was made up fine nerve fibres, many of which had acquire a delicate medullary sheath. After th second operation the wound was closed an the animal allowed to live ten days longer it was then killed and the nerve both belo and above the second cut was examine No degeneration was found in the ner fibres above the second lesion, but Walleria degeneration was shown by the March method to have occurred in the medullate fibres of the peripheral portion which was quite inexcitabl The direction of degeneration is the direction of growt so this experiment shows that the growth of th nerve fibres had not started from the periphery centra wards but in the reverse direction. Fig. 18 is fro a drawing of the degeneration seen in a teased pre paration of the peripheral segment after the secon operation.

We noted an interesting point in these experiment which illustrates the great rate at which the regene rating fibres grow. Although only ten days ha elapsed between the second operation and the killin of the animal, and although quite half an inch of nerve had been excised and no efforts made t approximate the ends, yet there was usually a well- marked strand of union uniting the two segments. We think that these experiments, taken in conjunction with the somewhat similar experiments already alluded to in the work of Langley and Anderson, in which, after union of the two ends of a divided nerve, degeneration in the regenerated fibres sets in after a second operation of dividing the central end of the nerve nearer the spinal cord, conclusively prove the regenerated fibres to be in anatomical continuity with the fibres in the central end, and so with the central nervous system. They thus serve to prove the doctrine that the regenerated fibres have grown from those in the central stump. At the time that we undertook these experiments we were under the impression that they had never been previously performed. But on looking up the literature we find this is not the case. Like so much of the present work set oing by the revival of the autogenetic theory this experiment has also been performed by others. As long ago as 859 Philippeaux and Vulpian did it and obtained the same esult as we have; we can hardly doubt that this formed ne of the factors that later led Vulpian to abandon the utogenetic theory.

FIG. 18.



Wallerian degeneration of regenerated nerve fibres in a cat. Marchi method of staining. 80 diameters. (Drawn from a teased preparation made by Dr. Mott by Miss Kelley.)

(4) *Experiments on the rate of medullation in regenerating nerves.*—Another very important piece of evidence which supports the general view I am advocating was obtained by examining regenerated nerve fibres in various parts of their course. There is always a noticeable difference between the amount of medullation in the regeneration of motor and sensory nerves, that in the latter advancing more rapidly. It was therefore necessary for us to examine the same bundle of fibres in different parts of their course. In specimens obtained from 80 to 90 days after the nerve had been cut the peripheral portions near the junction contained numerous myelinated fibres, whereas some inches lower down myelination was less distinct and the number of fibres which had been invested with a medullary sheath much fewer in number. We illustrated these appearances by coloured drawings in our paper recently read before the Royal Society. It can hardly be doubted that the medullary sheath is a developmental appendage of the axis cylinder; it appears in the fibres of the central nervous system, where the neurilemma is absent; it degenerates with the axis cylinder when a nerve fibre is cut and completeness of function is associated with its appearance in development and with its reappearance in regeneration. I therefore think we are justified in concluding that the late appearance of this sheath in those portions of the regenerating fibres which are most distant from the place where the nerve was originally cut is a conclusive piece of evidence in favour of the view that the new nerve fibres have grown from the central end in a peripheral direction.

(5) *Experiments on the influence of stimulus on regeneration.*—These experiments were performed on rhesus monkeys. A monkey's arm was rendered immobile by the division of a number of the upper posterior roots on one side. In order to be perfectly certain we usually divided from the second cervical to the second or third thoracic roots inclusive. The anterior cornual cells from which the corresponding motor fibres originate are thus not subjected to stimuli from the periphery, and, as Mott and Sherrington were the first to show, the arm is as much paralysed as if the anterior roots had been cut. We, however, again noticed in some of these animals under the influence of strong emotion that some efforts were made to move the paralysed limb. These efforts are ineffectual and are limited to associated movements in the upper segment of the limb; fine movements were never noticed. When the animal is living in its cage under ordinary conditions it makes no effort to move the limb, which, when a sufficient number of roots have been entirely cut through, hangs helpless like a flail. After the healing of the neck wound produced by the cutting of the posterior nerve roots was accomplished, a matter usually of one or two weeks, a large nerve in the arm was then divided and the ends were sutured together. The corresponding nerve was cut and sutured on the non-paralysed side as a control experiment. The animal was finally killed; the interval between the operation and death varied in different experiments, but the best time for making the observation we finally determined to be between 60 and 70 days after the nerves had been cut. This is a date when regeneration is perfectly evident, but not too far advanced; it therefore permits of comparative observations on the amount of regeneration. Union of the divided nerves occurs on both sides of the body and in our early experiments the nerve on the side corresponding to that on which the posterior nerve roots had been divided was found to be the less excitable to the faradic current. Histologically this nerve showed a looser texture and new nerve fibres, though present, were less numerous than on the control side. In these early experiments also we found that the posterior cornual cells in the cervical region were atrophied and that there was a considerable overgrowth of neuroglia tissue in the posterior horn. Further examination of these spinal cords showed, however, that there had been a considerable number of small hæmorrhages, sufficient in some cases to cause degeneration in various descending tracts in the cord. It therefore became quite possible to explain the effects observed by this complication.

In several of the later experiments in which cord hæmorrhages did not occur to any great extent we have been unable to detect any marked changes in the anterior or posterior cornual cells, or any difference to stimulation or in microscopic structure between the regenerated nerves of the two sides. This conclusion fits in with some experiments of H. K. Anderson. He showed that in developing animals section of all the posterior roots connected with a limb exercised no retarding influence on the development of the corresponding anterior roots. Warrington has stated that when posterior nerve roots are cut the anterior horn cells undergo the chromatolytic change associated with inactivity; after some time (from 30 to 74 days) chromatolysis disappears, but the total number of cells on the side of the lesion is lessened; after periods of from 150 to 223 days from the initial lesion the wasting of the grey matter is very marked. We have never observed these changes even although in one case the cord was examined in an animal killed 17 days after the division of the roots. At any rate, it was not possible by looking at the anterior nerve cells of the two sides to tell which was the side on which posterior roots had been divided. In further experiments we sought to cut off the cerebral influence by removing the cortical arm area of the opposite side in addition to dividing posterior roots. In this case also the regenerated nerves of the two sides were equally responsive to stimulation, and histological evidence of any marked difference between them was also lacking.

Finally, we still further reduced the action of innervation currents on the anterior cornual neurons by cutting off the stimuli which enter by the posterior roots as well as those which descend from the brain. The latter was accomplished by combining either a semisection or a complete transection of the cord in the mid-thoracic region with the division of the posterior nerve roots which correspond to the lower limb of one side. The two sciatic nerves were then divided and sutured and, as before, an interval was allowed to elapse until these nerves regenerated. Here, again, the result was negative. Both nerves regenerated equally well and both were equally responsive to excitation. It is, therefore, quite evident that the paths which even in these circumstances remain open (commissural and association tracts) are sufficient to maintain the activity of the anterior cornual cells in the sprouting forth of new axons in a peripheral nerve although they may be insufficient to induce those cells to send effective impulses along them. It is also evident that in order to reduce the activity of the anterior nerve cells to a sufficient degree to prevent the regeneration of their axons, it would be necessary to insulate a group of them so as to prevent all impulses reaching them from every part of the nervous system. We did not see our way to accomplish such an operation without interfering with the blood-supply of such an island of cord matter. The nearest approach we have obtained to such a condition of things is to be found in those early experiments in which hæmorrhages and neuroglial overgrowth occurred as a complication. Here certainly the diminution in the number of regenerated fibres points to a reduced activity or, it may be, destruction of some of the anterior cornual elements, but in either case these experiments, so far as they go, are in favour of the view that new nerve fibres grow from central axons and are not formed autogenetically.

GENERAL CONCLUSIONS.

I put forward the foregoing five sets of experiments as a contribution to the discussion now in progress as to whether the regeneration of nerve fibres is autogenetic or not. These experimental methods approach the subject in different ways and in no one case was any evidence forthcoming of auto-regeneration. The facts recorded, taken in conjunction with those published by such observers as Cajal and Langley and Anderson, form, on the other hand, strong pieces of evidence in favour of the Wallerian doctrine that new nerve fibres are growths from the central ends of divided nerve trunks. The experimental facts recorded by those who, like Bethe and Kennedy, hold the opposite view are susceptible of easy explanation, mainly on the lines emphasised by Langley and Anderson of accidental and unnoticed connexion of the peripheral segments with the central nervous system by means of other nerves cut through in the operation. If such connexion is effectually prevented real regeneration of structure and restoration of function never occur. Moreover, the regenerated fibres always degenerate in a peripheral direction, and in a peripheral direction only, when the link that binds them to the central nervous system is again severed. Perhaps the most striking of the new facts I have mentioned is in reference to the development of the medullary sheath; this appendage of the axis-cylinder appears earliest at situations near the point where the ends of a nerve have been joined together and reaches the distal portions later. What takes place in the peripheral segment of a divided nerve is a multiplication, elongation and union into long chains of the neurilemmal cells. The same change is even more vigorous at the central termination of the cut nerve; and the view of the phagocytic and nutritive function which we *attribute to this sheath* has been supported independently by some striking observations of Graham Kerr to which I have fully referred. At the central end this nutritive function is effective and provides for the nourishment of the actively lengthening axis-cylinders. At the peripheral end, unless the axons reach it, it is ineffective in so far as any real new formation of nerve-fibres is concerned. If, however, the axons reach the peripheral segment the work of the neurilemmal cells has not been useless, for they provide the supporting and nutritive elements necessary for continued and successful growth. The neurilemmal activity appears to be essential, for without it, as in the central nervous system, regeneration does not take place.

Note.—Since this lecture was prepared for publication Dr. Bethe has sent me a copy of his latest paper on regeneration (*Pfluger's Archiv*, vol. cxvi., p. 385, 1907), in which he defends his views. He now admits that in adult animals no regeneration of medullated fibres occurs autogenetically; he does not, however, state at what age animals lose their power of autogenetic regeneration or explain how it is that after a certain date an animal repairs a divided nerve in the exactly contrary manner to that it would have adopted if the nerve had been cut before that date. He also again admits that a regenerated nerve when cut degenerates in a peripheral direction only but denies that degeneration has anything to do with direction of growth. He further states that on one or two points we had misquoted him in our Royal Society paper; for this we can only express our regret and in the present lecture I have rectified the error. The paper is largely polemical and is directed against Cajal, Marinesco, and others as well as *ourselves.* I can, however, find no fresh work in it sufficient to convince me that autogenetic regeneration of nerve ever takes place.

Bibliography.—The chief references to the original work done on this subject are given in a paper by Mott, Edmunds, and myself in the Proceedings of the Royal Society, B., vol. lxxviii., 1906, p. 259. The principal papers which have since appeared are the following: E. Lugaro, Neurologisches Centralblatt, vol. xxv., 17, p. 786; G. Marinesco, Jahrbuch für Psychologie und Neurologie, vol. vii., p. 141, 1906; Perroncito, Bolletino della Società Medico-Chirurgica diu Pavia, 1905. All three papers defend the Wallerian doctrine. The following paper by Warrington, Journal of Physiology, vol. xxx., p. 503, 1904, was not mentioned in our Royal Society paper. Braeunig: Archiv für Anatomie und Physiologie, Physiologisches Abtheil, 1903, p. 251, confirms Warrington's views.

A Lecture

ON

THE CAUSES OF CARDIAC MOTION AND DISORDERED ACTION.

Delivered at the London Post-Graduate College and Polyclinic

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GENTLEMEN,—It appears to me that we may occasionally with profit devote a certain amount of time to an inquiry into the "causes of things" and I shall venture, with, I hope, your acquiescence, to go even further and say that such a procedure is often of practical utility. Thinking so myself, I propose in this lecture to deal with certain facts and opinions which in recent times have materially altered the view which some take of the nature of disorders of cardiac motion, although I do not find myself able to subscribe in their entirety to some of these notions, if I have apprehended them aright.

The heart, like every other organ exercising a particular function, is built on an essentially tripartite basis. We have a cell having properties peculiar to itself, blood which nourishes that cell, and nerves which "govern its action," to use the conventional phrase. The central nerve cell itself may be said to have afferent and efferent processes, of which the former may be regarded as its essentially stimulating "nerves," having their roots in living matter and connecting life with life throughout the body—life touching life through the central nervous system as blood flows through its channels from and to that organ which Harvey likens to the sun of our world in perhaps the finest chapter of his immortal work. So, also, the roots of action or motion, as a whole, may be said to be in "feeling" or in "irritability," if you prefer that term, and the senses of the body corporate may be held to touch the sources of "life" in the midst of that "Nature" in Which and by Which or Whom all living things "move and have their being." If one of the factors in this tripartite combination suffer, the others of necessity suffer more or less with it, for the functional activity of the organ depends upon their duly balanced and harmonious coöperation.

I do not suppose this position is seriously assailable, but thought, as directed to the point, has tended at one time to ascribe the major influence to one factor and at another to another. The blood as a medium common to the two others, and without the nutritive influence of which neither of them could exercise any function long, has entered of late less into the controversy as playing a predominant rôle in the exercise of particular function than the other two, and even as regards these their own sphere is sufficiently evident, except in a borderland of detail in function which some regard as chiefly exercised by the cell and others by its nerve-supply. The controversy, that is, as affecting the heart, lies chiefly between so-called myogenists, who advocate the claim for preponderant action to the muscle cell in the heart, and neurogenists, who claim that details in the function of the cell are chiefly dependent upon the nervous influences brought to bear upon that essential factor. We may, therefore, direct attention in the first place to the claims of the muscle cell.

It is unnecessary and would be quite out of place on this occasion even to attempt to sketch the evolution of thought *as regards the character of muscular action* in the heart. It is as old as direct observation of the active organ. Knowledge of the sequence of auricular and ventricular action and of the contractility of small detached segments of the heart is as old as Harvey. To come to later times the arrangement of muscular fibres in the heart has been more minutely amined (among others) by Professor J. Bell Pettigrew and s dissections of the boiled organ may still be seen in the useum of the Royal College of Surgeons of England in ncoln's Inn Fields. At the present time there is no one this country who has more fruitfully directed attention to e anatomical study of the heart than Professor Arthur eith of the London Hospital, to whom I am indebted for e opportunity of showing you specimens bearing upon me points in this lecture, and some of whose illuminating apers have been published in THE LANCET.

Careful and elaborate as were Professor Pettigrew's dissec-ons they did not show a direct continuity between the uricular and ventricular musculature. This was until com-aratively recently undiscovered and not until still later was s complete anatomy known, if, indeed, we can even now egard that to be the case.

The researches of Stanley Kent, His junior, Retzer, renig, Tawara, and Keith have shown in considerable etail that a peculiar system of muscular fibres connects the uricles and ventricles by a route of perfect continuity. It s present in all vertebrate animals and is even found in the mbryo, but it is very well developed in the sheep and in the alf, in which, as Professor Keith has remarked, it may be een with almost diagrammatic distinctness. This muscular ract arises in the right auricle below the coronary sinus, asses along the right side of the septum auricularum, dives elow the septal cusp of the tricuspid valve, and divides into wo main branches at the auricular end of the septum entriculorum. There the right branch courses down the ight side of the septum to be generally distributed to the walls and papillary muscles of the cavity, and the left, piercing the fibrous membrane, passes over the top of the septum into the left ventricle, entering that chamber at the base of the non-coronary cusp (as Keith conveniently calls it) of the aortic valve, and, as in the right ventricle, is generally distributed over the surface of the chamber and into its papillary muscles. The fibres of this system differ from the usual type of cardiac muscle fibre. They are smaller and paler than the latter at their commencement and have smaller nuclei, become larger and merge into the peculiar cellular system of so-called Purkinjean fibres at a later point in their course, and, as Tawara has shown, ultimately end in cardiac muscle fibres of the ordinary type. Some bands in the ventricles hitherto regarded as tendinous are now known to be strands of pale muscle belonging to this system. Purkinje first noted fibres of the type called after his name in 1845, but these were regarded until recently as embryonic remains or pathological products. I think it is not too much to say that we have now a clear conception of their anatomical relations, although much observation is still needed to settle important points in their physiological function and the mechanism by which this is exercised.

Peculiarity of anatomical organisation argues a corresponding specialisation of physiological function, and Hering and others, including Erlanger, have shown that section or clamping of this so-called bundle of His has the effect of dissociating the regular sequence of auriculo-ventricular contraction. Hence it has been assumed that the function of this system of muscular fibres is to conduct the stimulus to contraction from the auricles to the ventricles, and hence also that alterations in the auriculo-ventricular rhythm are frequently due to disturbances or interruptions in the course of these muscle fibres, which thus manifest the property of "conductivity," as it has been termed, to distinguish it from the neural transmission of impulse. It is to Gaskell in this country, to whom we also owe so much of our knowledge of the nervous endowment of the heart, that we are chiefly indebted for the present conceptions of this among other properties of the cardiac muscular fibre, and Englemann in Germany has given powerful support to these views.

Conductivity is only one of the properties inherent in cardiac muscular fibre, according to the view now held by some observers. The other essential properties are the independent power to build up a "stimulus" to contraction which enables the muscle cell, by its likewise inherent "excitability," to manifest its "contractility," its regularly repeated contraction or "rhythmicity," and its degree of average contraction, "tone," or "tonicity," as myogenists term it. The muscle cell is thus assumed to have excitability, contractility, rhythmicity, conductivity, and tonicity, which constitute its five-fold independence. These terms are not in themselves new, but their independence of nerve influence has of late been emphasised. Like all other muscle, the fibres of this system are, however, endowed with nerves, although details in their innervation still demand research. But it is assumed that, while the nervous system "controls" their action, it is no more the cause of any of their activities than, as Professor Wenckebach (one of the most ingenious exponents of this myogenic theory) declares, the action of the horseman in manipulating the reins is the essential cause of the various manœuvres and condition of the horse itself.

The arguments employed in the establishment of this independence of cellular organic action have varied, as scientific theories are bound to vary, in the light of fresh facts. It was argued at one time that certain rhythmically acting organs, or portions of organs, were devoid of peripheral nerve cells and even of nervous endowment. The later discovery, however, of these structures in such situations has altered conceptions built upon this assumed nervelessness. But, even now, there is in some instances a vague ascription of a merely trophic value to the nerve-supply in such situations, or a definite limitation of nerve influences to a strictly regulating rôle, as distinguished from one in which they may be regarded as productive of stimulus, excitability, conductivity, and tone in the individual cell. Divergent as these views apparently are, it seems not unreasonable to expect that the truth will be found to lie in a compromise between them and that some of the properties of the muscle cell may be found to be more dependent upon nervous influence than is at present thought to be the case. Indeed, there are not wanting signs that such an enlargement of view has already begun. The nervous system, which lay dormant in the myogenic description of cases for a time, plays a considerable part, for example, in the account of a case of bradycardia published by Dr. John Hay and Dr. Stuart A. Moore in THE LANCET.[1]

I am not aware that it has ever been urged that the power of the visceral muscle cell to manifest contraction and the cessation of contraction—that is, contractility—is in the first instance due to the influence of the nervous system any more than that the secretory power of any glandular cell is owing primarily to such influence. But experimental physiology has amply proved that the functional activity both of the cardiac cell and of glandular cells may be modified by the action of the nervous system, and the question arises whether the attribution to a cell of a complex of independent properties is not really the multiplication of one essential property through the influence of the nervous system into the several properties which serve to explain its various conditions.

The anatomical argument for the independence of the cardiac cell in its complex aspect is drawn in the first instance from embryology. His showed that rhythmical action could be observed in cardiac muscle at a time prior to its endowment with nerves. This would doubtless be a strong argument were we certain that this embryonic rhythmicality was really quite devoid of nervous influence. We must remember that if nerves have not actual touch of the muscle, when it first exhibits the property in question they are, nevertheless, like the muscle itself, in process of growth, and not only so, but that the nerves are growing in a direction which will ultimately carry them to the cell. Is it not possible that they may in these circumstances exercise an influence from a distance upon nascent muscle through the medium of the evolving structures and the nutrient fluid in which the parts grow, on some such principle as the transmission of messages by wireless telegraphy to a recording surface? It may be objected that such a notion is merely fanciful, and I readily admit that it is so, but it must also be remembered that embryology is a matter of anatomical observation, not of experimental physiological research, and it is difficult to imagine that it can ever be otherwise. But, it may be urged, that whatever doubt there may be on this point there is none about the orderly auriculo-ventricular contraction of the eviscerated heart—of the heart detached from the central nervous system, and it may be maintained that reflex actions carried out by peripheral portions of the nervous system are against the finding of the experimental physiology of the moment.

There are some considerations which appear to call in question the finality of the above conclusion. Thus, there appears to be a relation between the constancy or degree of rhythmical muscular action in the viscera and the character of their nerve-supply. The heart and intestines, for example, which are constantly rhythmical, are richly supplied with peripheral ganglionic cells in their nervous endowment, while the uterus, an organ in which rhythmical action is chiefly manifested for only a short period during parturition, so far as I have been able to ascertain by personal investigation, is quite devoid of such cells on the nerve trunks which course through the organ, although it is in connexion with the sympathetic system by extra-uterine ganglia. To ascribe a merely trophic influence to the peripheral ganglionic cell does not carry us much farther, nor does it convince us that there is not a certain autonomy in the peripheral nerve cell, even although, like delegated authority generally, its permanence or persistence may be dependent upon a more central organisation. It does not therefore follow, I would submit, from a more exact knowledge of the muscular structure of the heart that the rôle of the nervous system is merely that of regulating the action of the muscle cell, excited in various degree by a self-generated stimulus. The importance of this conclusion, if correct, for a just estimate of the nature, causes, and treatment of motor disturbances of cardiac action cannot be disputed. Erlanger has shown that the clamping of the band of His interrupts more than muscular conductivity. It also interrupts when complete the transmission of nerve influence by way of the vagus and what is true of this experiment is doubtless also true of that in which the tract is divided by the knife. Due weight must, however, be given to the important observation made by Hering and other physiologists that it is division of the tract at the auriculo-ventricular boundary and not section of the heart muscle elsewhere which results in the dissociation of auricular and ventricular contraction.

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[1] THE LANCET, Nov. 10th, 1906, p. 1271.

The five-fold qualities or properties of cardiac muscular action are taken to denote a similar variety of conditions of the muscle cell and the myogenic view is that these properties must be regarded as independent of one another. That is, that one or more may be increased or diminished as the case may be without the rest being affected. Thus stimulus production may be diminished while excitability is increased or average, and the latter may be altered without conductivity and contractility being changed.

It is not disputed by the most convinced myogenists that the nervous system may inhibit or increase one or all of these properties of the muscle cell, but the essential participation of the nervous system in the production of conditions of which these manifested properties are a result is denied by them. Inasmuch, however, as we are still ignorant of the nature both of the so-called muscle stimulus and of nervous influence, it follows that dogmatism on this point, either from the myogenic or neurogenic standpoint, is out of place, while any heat of controversy on the subject is as irrational as the *odium theologicum*. It is rather an interesting scientific question in the discovery of the truth of which all are concerned, because, to quote an old saw, "knowledge is power," and, as practical physicians, all interests us which we can utilise in the management of disordered function. The myogenic position is, however, more difficult to establish in some respects than the neurogenic because the stimulus and its consequences are sought by the myogenist in one and the same structure, while the registration of the effects of nerve stimulation are seen not in the nerves but in the organ innervated. The behaviour of the heart may be noted as a consequence of stimuli applied to its nerve-supply and, as a matter of fact, we do know, as I have already stated, that the action of the cardiac muscle may be retarded, hastened, augmented, and depressed through the direct agency of the nervous system, the importance of which fact, for practical purposes, cannot be gainsaid whatever names may be applied to the various phases in the complex muscular states, which the myogenist regards as acting automatically.

Did the inherent possibility of certain conditions arising not exist, naturally they would not arise. That a strip of muscle detached from the body and variously treated by stimulating or relaxing agencies should show evidence of what is called tone or tonicity or of relaxation, which seems not yet to have been termed relaxicity but depression of tonicity, appears no more marvellous than that water should harden under cold, and ice melt under the influence of heat. Did the water not contain these potentialities the result would certainly not follow. But the change is one of condition under additional influence, not necessarily of independent constitution. Did cardiac muscular tissue not possess the potentiality of manifesting the various states to which the names mentioned have been given, the phenomena they connote would certainly not appear. But it does not follow because this is so that the blood and the nerves do not in life, and with organs intact, induce conditions which have as a natural consequence the various states of muscle mentioned. Even on this showing, however, the blood and the nerves are only general terms for materials which conduct force, as air does heat and cold, and suggest much more complex conditions the full knowledge of which would give us the key to the mystery of life itself, which some are sanguine enough to suppose it may one day be the lot, desirable or otherwise, of some physiologist or physicist to discover.

Certain *pathological* facts, in addition to the interpretation of clinical phenomena, and the results of experimental physiology already mentioned, are regarded as supporting the myogenic position. Thus Stengel found in a fatal case of bradycardia that a calcification of the aortic cusp of the mitral valve pressed upon the point at which the bundle of His enters the left ventricle for distribution. In estimating the value of this fact we should naturally desire some evidence as to the duration of the bradycardia and the length of time for which the calcification described impinged on the conductive tract. The muscular fibres of this tract are stated by Aschoff and Tawara not to participate in the general hypertrophy of an enlarged heart, and Professor Keith corroborates them on this point so far as his present researches have gone. In one case of bradycardia Aschoff found a "severe sclerosis of the small arteries which traverse the knot and principal bundle of the conducting tract," and in another of the same disorder he found "a very marked development of adipose tissue in the same part." He adds, however, that the heart was generally infiltrated with fat and that he could not establish "any actual destruction of the muscle within the main portion o the conducting system." Dr. G. A. Gibson also found in case of "heart-block" cellular infiltration and fibrosi of the band in question, while an examination of the vag gave a negative result. Dr. John Hay has quite recently recorded a case of syncopal bradycardia in which Professor Keith found the fibres of the bundle of His "partially" obliterated. There were, however, periods in which the conducting power of the tract appeared to be good, and Dr. Hay assigns as possible causes of the variation either vagus influence or undue frequency of auricular systole. Needless to add, there was no exhaustive examination of the intrinsic nervous system of the heart.[2]

I merely state the facts related without further comment than that many more such observations will have to be recorded and weighed before a positive conclusion is attained on pathological grounds as to the dissociation of auricular and ventricular action being due to a purely muscular affection of these fibres. Even on physiological grounds one would scarcely expect any gross lesion of the vagi in cardiac *retardation*. We should rather seek it in some evidence of disease in the accelerant nerves which permitted the vagus influence to be exercised unrestrained. But we know that the pathology of the cardiac nervous system is, at present, practically a *terra incognita* and the physiology of the newly discovered conductive tract is still in its infancy. Details in its innervation even are unknown as I have already stated. The importance of the nervous system as influencing cardiac action is, on the other hand, also argued by certain facts which are difficult to explain on the hypothesis of its playing a merely regulating rôle in a muscularly independent organ. The influence of psychical and physical stimuli in producing alterations in the rate, rhythm, and force of cardiac action is among the common-place observations of physiology, experimental and clinical and subjective. Do they do so merely by playing the part of the horseman to the horse, to use Wenckebach's simile, that is, by curbing constant independent properties of the muscles, or by urging them to increased effort? Or does the nervous system augment or inhibit manifestations of muscular action by modifying the production of stimuli or changing their nature? That is, of course, the whole ground of controversy between the myogenist and the neurogenist. There are some recorded clinical experiences which appear to argue that the independence of the properties ascribed to visceral muscle may be matter of legitimate doubt.

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[2] Professor Keith and Dr. Charles Miller give anatomical particulars of a case of long-standing bradycardia in THE LANCET of Nov. 24th, 1906, p. 1429, in which the muscular connexion between the auricles and ventricles must for long have been destroyed, but in which, nevertheless, the His-Purkinje system beyond the point of destruction showed no degeneration. They conclude from this that *conductivity* is not the *only* function of this system. Their paper was published after this lecture had been delivered and we thus see an enlargement in conceptions of the *functions* of this tract already manifesting itself, although we are no nearer a solution of the essential cause of these functions.

Jonesco, a surgeon of Bucharest, affirmed in 1897 that he had removed the entire chain of three sympathetic cervical ganglia with the intervening cord on both sides without ill result in a case of exophthalmic goitre, and, moreover, that he had never seen any evil consequences from this procedure. Some Parisian surgeons also report that they have cut the cord and removed the ganglia without a fatal result as a rule, although in one case, under the care of M. Faure, the patient suddenly died while under an anæsthetic after the cord and superior and inferior ganglia had been removed upon the right side. He suggests that the anæsthetic (chloroform) had a share in the catastrophe. The experience of able surgeons in this country, however, indicates that fatal consequences may be directly attributable to that severance of the connexion between the heart and its nervous endowment which continental surgeons affirm they have effected without such a result. I have the permission of my friend, Mr. C. B. Lockwood, conscious of his strength, for recording his unfortunate experience of such a case, with notes of which he has supplied me.

The patient, a young woman, aged 19 years, suffering from exophthalmic goitre, with thyroid, heart and eye signs of two years' duration, was admitted into St. Bartholomew's Hospital on Jan. 18th, 1899, under the care of Dr. W. P. Herringham. A month later (on Feb. 18th), the patient having been anæsthetised with gas and ether, Mr. Lockwood operated upon the cervical sympathetic about 2 o'clock in the afternoon. The ganglia were not removed but the cervical cords were divided, that on the left completely, and a small portion excised; that on the right consisted of two cords, one of which was divided. The patient was removed to bed and quite recovered from the anæsthetic. The classical signs of division of the sympathetic were well marked on the left side, the pupil of the left eye being contracted and the left half of the face flushed and occasionally sweating freely. The pulse and respiration were accelerated and the temperature slightly raised from the commencement. The pulse became irregular and occasionally intermitted. As the day advanced these signs were more marked. The pupils also varied in size and at 11.20 P.M. they were equal and "pin-point." At 1.15 A.M. on the 19th the temperature was 105·2° F., the respirations were 60, and the pulse was 200. At 2.42 A.M. there were general convulsions. Both pupils were dilated and the left more than the right. At 2.45 A.M. the patient died, the temperature being 105·6° and the left pupil being dilated and the right contracted.

A well-known provincial surgeon has also informed me that he divided the sympathetic cord on *one side only* and with fatal consequences in a case of exophthalmic goitre. It is difficult to reconcile these results with the experience of continental surgeons. Mr. Lockwood had *some difficulty* when operating on the chain in the right side of the neck in his case in determining in a leash of nerve cords which was the sympathetic, but the necropsy proved that he had completely divided the left and partially the right. Mr. F. F. Burghard of King's College Hospital informs me that he has on more than one occasion removed both the superior ganglia of the cervical sympathetic without fatal consequences, which is valuable clinical confirmation of the physiological conclusion from experiment that the chief cardiac outflow of visceral sympathetic nerves is through the inferior cervical ganglia without its previously traversing the superior ganglia.

Without wishing to be unduly sceptical one feels disposed to question whether there has not been some error as to complete division of the sympathetic in the cases reported to have suffered little inconvenience from the procedure. That an important nerve such as the pneumogastric may occasionally be divided on *one* side without fatal results is admitted, and the same is probably true of the sympathetic, but a complete division of the nerve on both sides, both as regards the pneumogastric and the sympathetic when the inferior cervical ganglion is involved, must on physiological grounds be scarcely compatible with life. Whatever view, therefore, may be taken of the essential nature of muscular and nervous action, it is manifest that their relation is so intimate in man as to render impossible *persistent* organic action when their union is severed, and we return to the position at which we commenced—namely, the tripartite unity of the hæmic, muscular, and nervous factors in cardiac action, which I imagine we all acknowledge to be essential to sustained organic activity.

So far, we have been concerned with a consideration of the essential or intrinsic causes of cardiac motion and therefore also with the causes of disorder in such function. Some reference may now be made to more accidental or extrinsic causes, for these also have an important bearing on treatment and, like all extrinsic or accidental circumstances, are at times more easy of correction than the essential causes of disordered cardiac action. Such extrinsic causes are mechanical and in their management frequently require the coöperation of the physician with the *surgeon*. They concern the blood-weight or distribution as distinct from the blood-supply to the cardiac muscle, the valvular mechanism to secure a due distribution of the blood, and space enough without impediment for the organ to contract and dilate and to receive and project its contents—in short, the causes which affect the working of the heart as distinct from those which underlie its action. The mechanical factors frequently dominate the situation, when, as so frequently happens, in addition to cardiac and intracardiac causes of difficult circulation, the movements of the organ are rendered more difficult by extracardiac adhesions to neighbouring parts, or by notable impediments to full respiration due to effusions of fluid or the presence of abnormal solids in the thoracic or abdominal cavities. The modification or, when possible, the removal of such aggravating mechanical factors then becomes a paramount necessity. It is manifest therefore that when the physician fails to restore an easy balance between the intrinsic factors in a labouring circulation by the indirect influence of the potent agents so frequently successful in his hands he *must* seek in some cases the coöperation of the surgeon in the modification or removal of such extrinsic factors as are amenable to his art.

ON THE TREATMENT OF FRACTURES IN THE VICINITY OF JOINTS.

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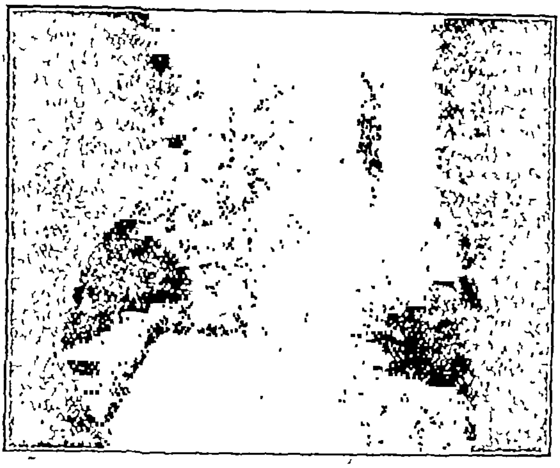
I DO not propose to say anything about the diagnosis of fractures, since it has resolved itself so largely into a question of obtaining perfect x ray photographs. I will satisfy myself by urging the importance of obtaining photographs in several planes, since it is only in this way that the nature of the fracture can be accurately diagnosed. The x ray photograph also furnishes us with a ready means of determining the manner in which we have done our work, whether we have attempted to replace the fragments in accurate apposition by manipulation or by operation. In either case the part should immediately after the operation be photographed in several planes, so that any defect may be effectually dealt with as soon as possible.

The fractures about the ankle-joint come under two distinct groups. First we have those produced by excessive abduction, which are called Pott's fractures and which consist in a spiral or torsion fracture of the lower portion of the fibula with or without rupture of the internal lateral ligament, or of transverse fracture of a portion of the internal malleolus with or without a vertical fracture of the *posterior* and *outer* part of the lower end of the tibia which is attached by ligament to the fibula. Secondly we have those produced by a fall on the foot in a position of considerable adduction or of activity. In these the inner malleolus with a portion of the tibia are broken off by a vertical fracture which usually traverses the tibia at the junction of the malleolus with the lower surface of the tibia. The malleolus with the portion of the shaft is displaced upwards upon the rest of the tibia. The fibula is broken transversely immediately above the attachment to the lower end of the tibia. The fracture is of the nature of a scrunch and the fragments may be much comminuted. Fig. 1 represents such a fracture taken from *before backwards*. This man to avoid being crushed jumped down into a ship's hold. The inner malleolus with a portion of the tibia was displaced upwards, while the fibular fracture was much comminuted. The tibial fragment was replaced in position and was retained by means of a steel plate fixed by two screws, a long one traversing the lower end of the tibia and a short one the inner malleolus. It did not appear necessary to do anything to the fracture of the fibula. Fig. 2 shows the condition of the part after recovery.

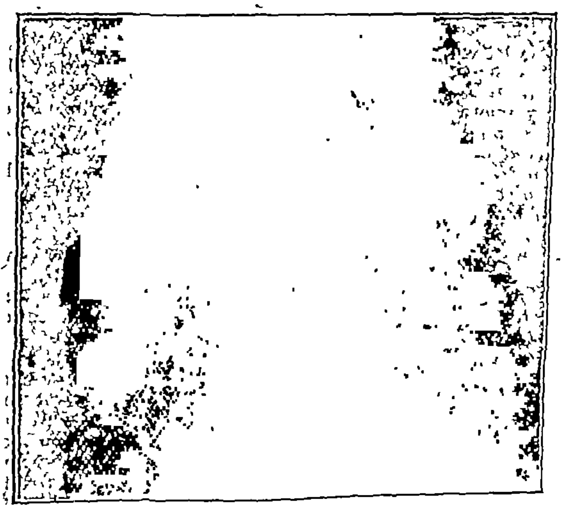
FIG. 1.



Represents an "adduction fracture" of the ankle taken from before backwards. It shows the character of the fracture of the fibula in this form of injury in a typical manner. It also illustrates very well the fact that a radiogram taken in this plane does not show the very considerable backward and upward displacement of the tibial fragment which almost always exists and which was most marked in this particular case. The omission to take radiograms of fractures of the ankle in two planes crossing each other at right angles has, in my experience, frequently led to disastrous results. The skiagram is taken at an angle which does not show the really great displacement which existed.

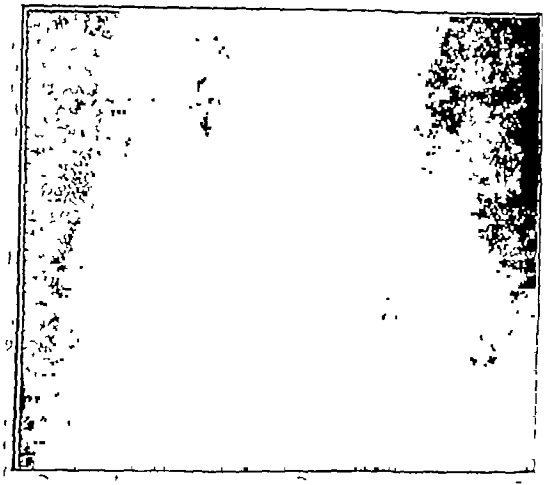
Now in either of the above conditions if by any process of manipulation and fixation in splints I am able to retain the fragments in apposition I am satisfied to deal with them in that manner. In a very alcoholic patient or in a fat woman I prefer to deal with them in this way even if I cannot effect anything approaching perfect apposition, for the reason that the lower end of the tibia and fibula in such people is very friable, the compact tissue being very thin. This produces a comminution or scrunching of the fragments, rendering accurate apposition by operation difficult or impossible because of the loss of substance. The retention of the *fragments in position* often cannot be effected, whether *screws, wires, plates, or staples* are used their h upon the bone is insufficient to be of any service.

FIG. 2.



Shows the condition of the parts after the patient had resumed his usual habits of life. The steel plate is seen lying on the inner aspect of the malleolus and shaft of the tibia, to both of which it is securely fixed by screws of suitable lengths.

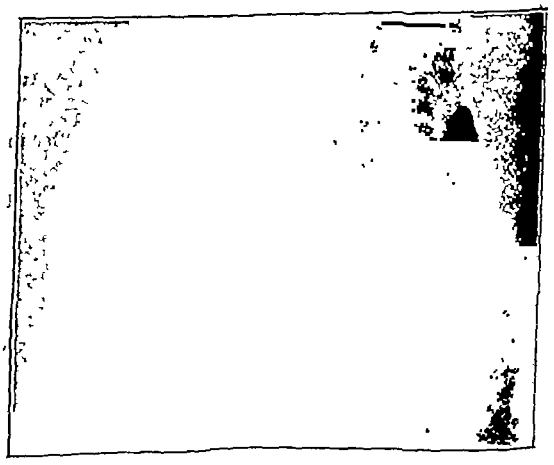
FIG. 3.



Represents an "adduction fracture" of the ankle in which the *tibial fragment* was secured by means of a single long screw. As in Fig. 2 the external malleolus is restored to its normal relationship to the astragalus, its fracture requiring no further operative treatment for its fixation.

In the ordinary subject, when I am able to satisfy mysel that apposition cannot be effected by manipulation, I do no hesitate to advise operative interference. How cases in eac of these two groups must be treated by operation depends largely on the details of the injury. Roughly speaking, in an abduction or Pott's fracture, since in these circumstances th fracture in the fibula is almost always clean and the textur *of the bone firm, I prefer to expose it and to unite* the frag ments in perfect apposition by silver wire perforating th fragments, by metal plates with screws, with screws alone and very occasionally with staples. Very frequently find combination of these methods very useful; for instance, the fragments may be perforated and a wire introduced which will include in its grip a plate through which screws are driven into the malleolus and into the fibula above the fracture. In this way not only are the *surfaces retained* in apposition

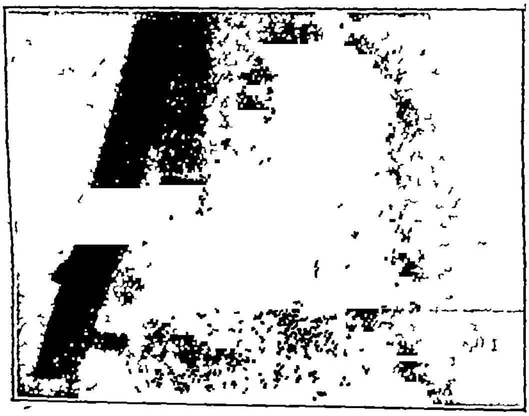
FIG. 4.



Represents an "abduction fracture," or Pott's fracture, of the ankle in which the displaced fibular fragment had after replacement in position been secured immoveably by a plate and screws.

by means of the encircling wire but a very stout steel splint is supplied, which takes almost all the strain off the junction and absolutely prevents any buckling of the fragments on one another. On effecting accurate apposition of the fibular fragments it is usually found that in the fracture of the back of the tibia and in that of the internal malleolus, should either or both exist, these fragments come into their normal position, but should the internal malleolus appear to be at all mobile I cut down on it and fasten it with wire, plate and screws, staple, or by a long screw perforating the inner malleolus and shaft obliquely in an outward and upward direction. Fig. 3 shows the manner in which the inner malleolus may sometimes be fixed with the greatest advantage by means of a single screw, the fibular fragments coming into accurate apposition. Fig. 4 represents a Pott's fracture in which the inner malleolus was not broken. The fibular fragments were secured in perfect apposition by means of a steel plate and screws. Fig. 5 is the result of an operation for a very bad Pott's fracture, accompanied by very considerable displacement of the foot and by a fracture of the internal malleolus and back of the tibia. The tibial fractures are not well shown in this illustration, the fragments having been replaced in accurate apposition. The fibular junction has been secured by a steel plate, two screws, and an encircling wire.

FIG. 5.



Represents the result of a bad case of abduction fracture in which the inner malleolus and the fibula were broken with a large piece of the back and outer part of the lower end of the tibia. The dislocation and replacement of fragments were effected with great difficulty A long steel plate with screws at either end, assisted by a stout silver wire, which encircled the seat of fracture and the plate, afforded a means of effecting securely the apposition of all the fragments.

The knee-joint, except for fracture of the patella, which calls for no special remarks, rarely sustains fracture of the ends of the femur or tibia. In separation of the epiphysis of the femur I have found it necessary to expose the seat of fracture in order to replace the fragments in position. As a rule there is little tendency to displacement, but if there is a couple of staples afford the most effective means of securing the surfaces in apposition. In vertical fractures into the joint I have found screws or wire efficient.

In fractures about the hip-joint, as in the shaft of the femur, long steel plates with several screws perforating both layers of compact tissue and placed at suitable angles have served best to retain the fragments in accurate apposition. Fig 6 represents a transverse fracture of the femur through the upper part of the lesser trochanter. There was some comminution of the upper fragment, a triangular fragment of bone being driven into the medulla. Every effort to replace the fragments by manipulation failed because of the displacement outwards and upwards of the upper fragment The fragments were exposed, the depressed piece of bone was levered into position, the broken surfaces were brought into accurate apposition and were retained securely in position by stout steel plates and screws. That the junction effected was secure was shown by the fact that though the man during the momentary absence of the nurse flung himself out of bed and subsequently developed delirium tremens, and though his splint had to be removed, nevertheless the fragments remained in accurate apposition, as is shown by Fig. 7, which was taken when the man left the hospital.

In extension and abduction fractures of the wrist, commonly called Colles's fractures, if the fragments cannot be replaced by manipulation I make a vertical incision over the posterior and outer aspect of the seat of fracture and introducing a steel elevator beneath the lower fragment, which may be formed by the epiphysis, lever it into position. This can only be done when the lower fragment is not comminuted. The hand is then fixed in a position of complete flexion and abduction. It is but rarely necessary to introduce any metal, since once placed accurately in position the fragment does not tend to become displaced.

FIG. 6.

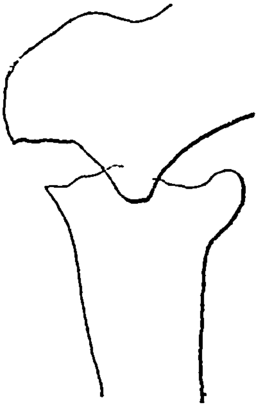


FIG. 7.

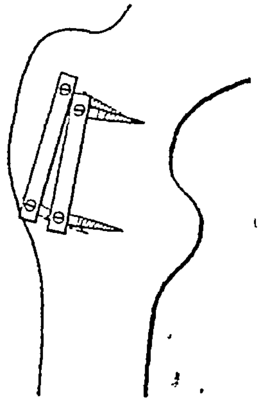
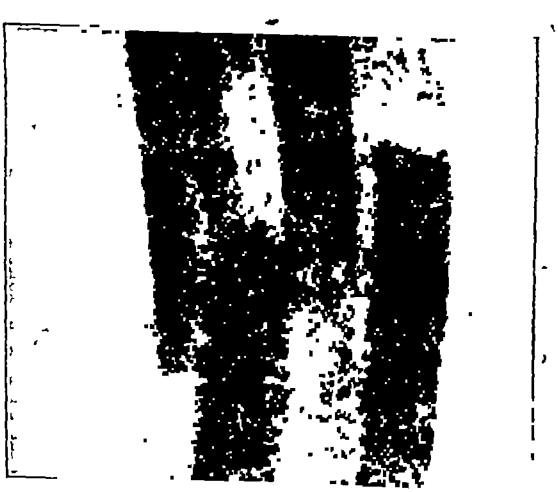


Fig 6 represents the tracing of a radiogram of a fracture of the femur about the level of the lesser trochanter, and Fig 7 shows a tracing after operation. These outlines were substituted for the original radiograms as these were not sufficiently clear for reproduction. The plates and screws which retained the fragments in position are also depicted.

Fractures of the olecranon are, I believe, most effectually dealt with by means of a long screw Occasionally the screw may require removal after a long interval, because of the gradual exposure of its head. I have removed one 11 years after the operation for this reason Fractures of the coronoid process are sometimes very difficult to deal with. On the whole, I believe that excision of the fragment is generally the best treatment. Much depends, however, on the nature of the fracture and the displacement of the fragment.

FIG. 8.

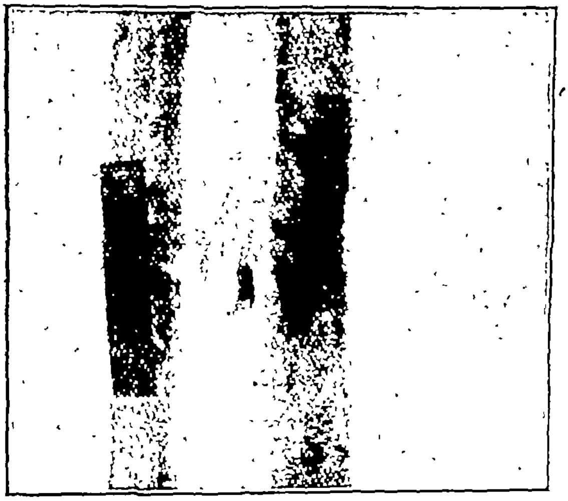


Represents an ununited fracture of the radius and ulna.

Fractures of the head of the radius are sometimes the cause of some anxiety as to the best measures that should be adopted. Sometimes I have replaced the fragment, fastening it in position. The difficulty I experienced was that owing to the small size of the fragment and its friability I was unable to fix it sufficiently firmly to permit of rotatory movements being commenced at once and while waiting for union adhesions were liable to form and limit movement. Again, in some cases I have removed the fragment and in others removed the stump of the head as well. In both very satisfactory results have ensued. If by manipulation the fragment can be restored to, or nearly to, its normal position passive movements undertaken at once form the best treatment.

The fracture about the elbow-joint that more frequently calls for operative treatment is that commonly called separation of the lower epiphysis of the humerus. In a small proportion of cases I have found it impossible to replace the epiphysis in perfect position by manipulation, but I have done it by making a vertical incision over the posterior aspect of the fracture, and by introducing a steel point between the fragments I have supplemented the leverage action exerted upon the fracture by the radius and ulna and so managed to restore the bone to its original form and usefulness. I have ceased to use any retaining media in these circumstances, since there is no tendency to displacement if the elbow is kept fully flexed. If the fragment is displaced laterally as well as backwards the lateral displacement must be reduced before that in an antero-posterior plane.

FIG. 9.

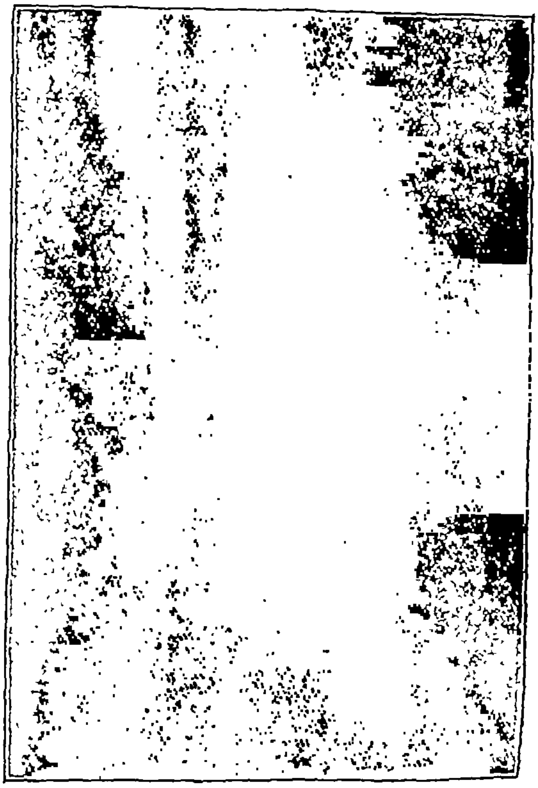


Shows the results of operation on Fig. 8, the replaced fragments having been secured by screws and plates.

The last joint to which I will call attention is the shoulder. In fractures of the upper end of the humerus in which I have been unable by manipulation to restore the bone to its original form and in which it was important that the functions of the joint should be perfect I have exposed the fracture and replaced the fragments in position. In many cases, as in separation of the epiphysis and in transverse fracture of the surgical neck, once accurate apposition has been obtained there is no tendency to displacement, but if the fracture is oblique or if the bones are comminuted some retaining medium must be employed. Staples are very useful when it is necessary to perforate the trochanters because of their cancellous structure, but if the fragments offer a dense hold screws or screws and plates are very useful. The results of such operations are as good as possible.

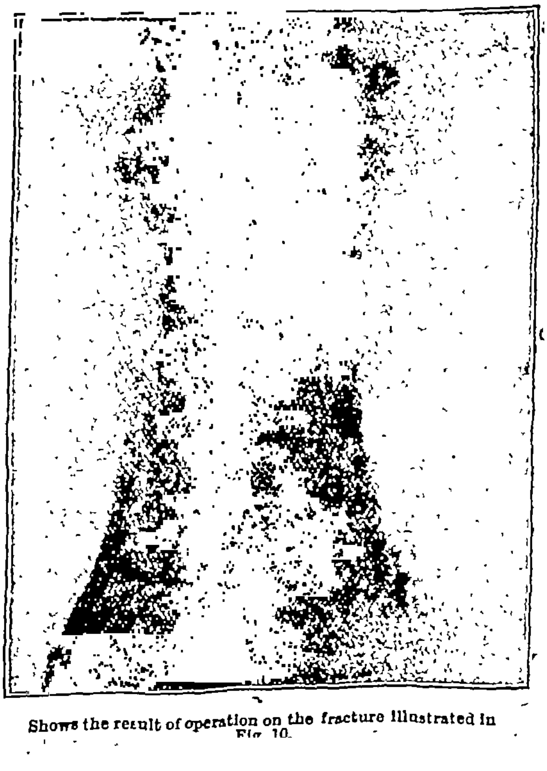
Now a few words as to the best media for retaining fragments in accurate apposition. I find screws in two gauges most useful; up to three-quarters of an inch Gauge 5 is as good as any. As three-quarters of an inch is a very useful size I use it in Gauge 7 also, which is the gauge of all the screws over that length. Having only two gauges three diamond drills only are required, one for the thread of the screw of Gauge 5, one for the barrel of Gauge 5 and for the thread of Gauge 7, and one for the barrel of Gauge 7. Stout metal plates can be usefully combined with the screws. They are made in various lengths with two, three, or more holes. Some of the plates are of steel, while others which are of

FIG. 10



Illustrates a comminuted fracture of the lower end of the femur in which the fragments were much displaced.

FIG. 11.



Shows the result of operation on the fracture illustrated in Fig. 10.

hard German silver can be best employed to fit the curves of bones. Those used for fractures of small bones like the radius, ulna, clavicle, and fibula are drilled to the 5 Gauge which allows the passage of a screw that will perforate both compact layers, a matter of vital importance since a screw obviously cannot get a secure hold on a single compact layer. To illustrate this I have chosen Fig. 8 which represents an ununited fracture of nearly three months' standing rather than a recent fracture, since the difficulties to be encountered are much greater in the former than in the latter. The injury was sustained on Feb. 22nd, 1906, and came under the care of a surgeon who has devoted much attention to the mode of production of fractures. I mention this fact to show that the patient had the advantage of the best treatment possible at the time of the injury. Manipulation was effected under an anæsthetic and plaster-of-Paris was employed for fixation. A useful arm was promised in about six weeks. On May 17th, we exposed the fragments, removed their ends, and effected accurate apposition by screws and plates. The patient has now a perfectly useful arm. Fig. 9 represents the fragments united by means of the plates and screws.

Fig. 10 represents a more or less vertical fracture of the lower end of the femur into the knee-joint in which the condyles were separated by a considerable interval. Fig. 11 shows the condition after operation.

Virgin silver appears to afford one of the best wire media should such be required. Staples with prominent or rounded angles are often very efficient in conditions suitable to their use, as in the case of the upper end of the humerus and the lower end of the femur. I know no condition in which pegs can be of any use mechanically.

Cavendish-square, W.

THE OPSONIC INDEX TO VARIOUS ORGANISMS IN THE SANE AND INSANE,

WITH THE RESULTS PRODUCED BY INJECTING TUBERCULIN.[1]

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THE recent observations of Wright and others on the opsonic power of human blood serum to the tubercle bacillus and other organisms and the methods they have discovered of estimating this power have opened up a new field for research and provided new methods of treatment for bacterial diseases which have already produced beneficial results. As Wright[2] found that in cases of staphylococcal and tuberculous infection with an entire absence of clinical symptoms there was a diminished phagocytic power to these organisms as compared with that of healthy individuals, and as this power could be increased by injections of the corresponding vaccine, he concluded that the lowered phagocytic power permitted infection to occur and that the resistance to infection by any organism could be estimated by calculating the opsonic power of the blood serum. The results of observations recorded by Bulloch and others agree with those obtained by Wright and support his view, as all have found a lowered opsonic power in cases of localised tubercular and staphylococcal infection, and these are the cases which benefit most from vaccine injections. Low tuberculo-opsonic indices have also been found in cases of early phthisis "cured" by sanatorium treatment. These cases frequently relapse, however, and whether the low opsonic index is the cause or the result of infection is not definitely decided. The estimation of the opsonic index of a class of healthy patients with a decided liability to tuberculous infection is therefore an important point in estimating the value of a low index as an indication of the resistive power of the individual to infection.

The statistics of the death-rate from tubercular disease, particularly phthisis, occurring in asylums leave no room for doubt that the insane as a class are specially liable to tuberculous infection. In their last report the English Commissioners in Lunacy compare the death-rates in institutions for the insane with those of the general population, all deaths under the age of 15 years being excluded. The death-rate of the general population per 1000 from phthisis was for males 2·07 and for females 1·35, while in the insane population it was 16·0 and 14·6 for each sex respectively. The Scottish Commissioners in their report for 1905 refer to the same subject and quote figures which are equally striking. In the six district asylums showing the lowest death-rate from tuberculous disease, of which Perth district asylum is one, the average per 1000 patients resident was 11, while in the counties from which these asylums draw their patients the average per 1000 persons living between the ages of 20 and 60 years was 2·8. Clouston says that in asylums consumption is between three and four times more common than in the general population at the same ages, and the figures quoted above more than support his statement. Even although a certain amount of the difference in the death-rates might be accounted for by overcrowding or other unfavourable conditions in some asylums or by the greater number of post-mortem examinations, and more complete and accurate returns made by institutions, or by the great difference in the totals from which the averages are estimated, still the fact remains that the insane are more susceptible to tuberculosis than ordinary individuals.

I have made observations on the opsonic indices of six members of the staff of Perth District Asylum and also on 30 patients suffering from various forms of mental disease. All were at the time of observation free from active tuberculous disease but five of the patients examined showed evidences of having at one time suffered from such infection. Of these cases one had cicatrices in the neck, while the others showed signs of former lung mischief. Two of them were suffering from general paralysis, one of whom has since died, and only a few small cicatrices at the apex of one lung were found post mortem. The usual technique for the estimation of the opsonic index was employed, equal quantities of serum, leucocytes, and bacterial suspension being used. The blood for examination was taken at the same hour each day and five consecutive observations were made in each case. Koch's new tuberculin T.R. was then injected and daily observations were made for a further period. My own leucocytes were used throughout and my blood serum was used as control. Its opsonic power was fairly constant, the number of bacteria ingested showing little variation from day to day. For the estimation of the tuberculo-opsonic index the contents of 80 leucocytes were usually counted and in no case were less than 50 enumerated. Simultaneous observations were made on the opsonic power of various cases to the bacillus coli communis, staphylococcus aureus, and micrococcus rheumaticus. These observations were continued after the injection of tuberculin T.R. The contents of 50 leucocytes were usually counted for these observations, but on a few occasions only 30 were examined. The same number was examined in each case on the same day.

The average tuberculo-index of the six healthy control cases for five consecutive days was 1·07, the average for each case being 0·98, 0·97, 1·32, 1·06, 1·01, and 1·11, showing a variation between 0·97 and 1·32. This average index agrees with the results obtained by other observers in healthy persons. Urwick,[3] in 20 cases, found the average index to be 1·006, while Bulloch[4] in 84 cases found an index of 0·96, and in Lawson and Stewart's[5] 25 cases the average was 1. The total variation, 0·35, is less than that found by Bulloch in the 84 cases he examined. Urwick states that there is little variation in the index of a healthy person from day to day. I found considerable daily variation in some cases, though the observations were made as *far as* possible under the same conditions. The greatest amount of variation recorded between any two consecutive observations was 0·3. In one control case, however, a record so low as 0·68 was obtained on one occasion.

The average tuberculo-opsonic index of the 30 insane persons examined for five days was 0·88. The variation was between 0·65 and 1·23 *and the daily fluctuation* was greater than in the healthy control cases. Of these 30 cases the six with the highest indices gave an average of 1·07, which is exactly that found in the same number of control cases. Although a greater number of insane were examined it may be fairly concluded that the average tuberculo-opsonic index of the non-tubercular insane is below that of the healthy sane. The average of the five patients with evidences of old tubercular disease was the same as that found for all the 30 cases.

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[1] Extract from a thesis for the degree of M.D. Edinburgh University.

[2] THE LANCET, Dec. 2nd, 1905, p. 1532.

[3] Brit. Med. Jour., July 22nd, 1905.

[4] London Hospital Gazette, vol. xi., March, 1905.

[5] THE LANCET, Dec. 9th, 1905, p. 1679.

The difference between the index found in the control cases, 1·07, and that found in the insane patients, 0·88, is very marked. This observation is therefore strong evidence in favour of the view that the opsonic power of the blood serum can be used as a test of the liability to tuberculous infection.

An examination of the indices obtained in the various classes of patients gives corroborative evidence. The index obtained in four cases of general paralysis was 0·79. As a class general paralytics are peculiarly liable to tuberculous infection. Mickle states that of all such cases examined post mortem 26 per cent. exhibited caseation or cavities, 12 per cent. arrested phthisis, and 65 per cent. pleuritic adhesions. Two of the four cases observed showed evidence of old lung trouble, but the index of the two cases with no signs or symptoms of previous infection was only 0·78, so that their liability to tuberculous disease may be due to their low resistive power as indicated by the opsonic index. Seven of the patients examined were suffering from acute mental disease. Three of these were cases of adolescent insanity, a class of patient particularly liable to tuberculosis. Their average index was 0·84. Of the remaining four cases two suffered from melancholia and two from mania. The index of the former was 0·88, of the latter 0·91, and as patients suffering from maniacal excitement are less prone to contract tuberculous infection than those suffering from melancholia this observation also supports Wright's view.

The chronically insane are generally believed to be more liable to tuberculous infection than the more acute cases. In 11 chronic cases of secondary dementia the average index was 0·93, while that of seven acute cases was only 0·87. This would seem to indicate that the acutely insane have a lower resistive power than the chronic demented cases, but it is also possible that the latter may become infected during the period of acute onset of the mental disease.

To estimate still further if there was any difference between the sane and insane in their reaction to tubercle I injected the six control cases, all members of the asylum staff, and the 30 patients with Koch's new tuberculin T.R.

In estimating the effect of the injection of any drug or vaccine it is necessary to take into consideration the idiosyncrasy of the individual to the particular drug or vaccine used. With a vaccine injection the idiosyncrasy of the person injected may be taken to represent the liability to infection by the particular organism from which the vaccine is made. In persons suffering from bacterial infection the injection of a vaccine of the infecting organism is followed by a negative phase or fall in the opsonic power of the blood serum and if the dose used be large enough a temperature reaction and constitutional symptoms may be produced. The negative phase is followed by a rise in opsonic power, or positive phase, which lasts a variable time but ultimately the opsonic power falls back to the level at which it stood prior to injection.

Wright[6] has stated that the result of his observations seem to suggest that the development of a negative phase following a dose of T.R. smaller than that which would produce this result in a healthy person may prove to be an index of tubercular infection. He found that the negative phase supervenes upon a very much smaller dose and persists much longer in the case when the patient is the subject of extensive infection than in the contrary case. Lawson and Stewart[7] injected four healthy persons with tuberculin T.R., the dose not being stated, and produced no negative phase. They therefore concluded "that the appearance of a negative phase after inoculation with a small quantity of tuberculin T.R. should enable one to distinguish between the blood of a subject of tubercular invasion and that of a person in sound health." The production of a negative phase after injection is therefore very important from a diagnostic point of view. So far no exact definition of the term negative phase has been made. As I found considerable variation in the opsonic index from day to day and, especially in the insane, that a slight rise sometimes occurred at the first observation made 18 hours after injection, I take a negative phase to mean any fall in the opsonic index occurring within 48 hours after injection, the index being below the level noted at the time of injection and also below the average level for the five preceding days.

Four control cases were injected with $\frac{1}{500}$th of a milligramme of tuberculin T.R. In two a distinct negative phase resulted. The fall in both was immediate and lasted in the one case two days and in the other three days, reaching 0·59 and 0·63 respectively. The subsequent rise was rapid, reaching 1·57 in the first and 1·74 in the second case on the sixth day after injection, a point in both cases much higher than any previously reached. In the one case where there was a tuberculous family history the average index prior to inoculation was 0·98 and the amount of variation considerable. The injection was given at a point well above the average level. In the other the average index was 1·32, but was 1·28 on the day of injection. In the remaining two cases no negative phase was developed. Both were injected at a point below the average level and the succeeding indices were low. As the results obtained did not agree with those recorded by Lawson and Stewart I concluded that the dose used was too large. The remaining two cases were therefore injected with $\frac{1}{1000}$th of a milligramme of tuberclin T.R. and with this dose no negative phase was produced. An immediate rise in opsonic power followed the injection, the maximum being reached at the first subsequent observation. The average index of these two cases was 1·01 and 1·11, and they rose to 1·25 and 1·38 respectively. Both were injected at a point slightly above their average level.

Twelve patients were injected with $\frac{1}{500}$th of a milligramme of tuberculin T.R. and in eleven of these a negative phase occurred. In four cases there was a slight initial rise after injection, followed however by a decided fall, which was complete in all four cases on the third day. In six of the cases a lower level was recorded than that reached in either of the two control cases in which a negative phase occurred. In only two of the insane patients did the maximum of the positive phase reach the level attained by the lower of the two control cases. As a rule, the positive reaction was slower and less pronounced in the insane than in the members of the staff, and also in the acute than in the more chronic cases of mental disease. There was no marked peculiarity in the reaction of two of the cases who showed evidence of old tuberculosis.

The marked difference in the percentage of negative phases following injection in the control cases and insane patients, the lower level reached during the negative phase, and the delayed and less pronounced positive phase in the latter class seem to indicate that the resistive power of the insane to tuberculous infection is less than that possessed by sane healthy individuals.

Eighteen patients received an injection of $\frac{1}{1000}$th of a milligramme of tuberculin T.R. and only four showed a negative phase—that is, 22·2 per cent., compared with 91 per cent. of those injected with $\frac{1}{500}$th of a milligramme of tuberculin T.R. As the average index before injection in those to whom the larger dose was administered was 0·87, while in those who received the smaller dose it was 0·89, the greater percentage of negative phases in the former class must be due to the larger quantity injected. All the patients injected with $\frac{1}{1000}$th of a milligramme of tuberculin T.R. were suffering from subacute or chronic mental disease, but the greater percentage of negative phases produced with the larger dose in both the control and insane cases indicates that $\frac{1}{500}$th of a milligramme of tuberculin T.R. is too large a dose to use for diagnostic purposes, and the high percentage following injection with $\frac{1}{1000}$th of a milligramme of tuberculin T.R. would seem to show that a still smaller dose ought to be employed. Only one of the four cases in whom a negative phase occurred—a general paralytic—showed evidences of old infection. The average index of the four prior to injection was 0·99, but the daily variation in these cases was greater than in the 14 in whom no such reaction was produced.

The chief difference noted between the two control cases and the 14 insane patients in whom no negative phase followed inoculation with $\frac{1}{1000}$th of a milligramme of tuberculin T.R. was the slower reaction of the latter after injection. Both control cases reached their maximum on the day following injection, while the insane took an average of four days to reach their positive maximum, but there was little difference in the level ultimately reached, though the average index before injection was lower in the insane.

Wright[8] has shown that a fresh injection of tuberculin during the negative phase produced by a previous injection emphasises the negative phase. I have been unable to trace any connexion between the level of the tuberculo-opsonic index on the day of injection and the subsequent presence or absence of a negative phase. It would appear that in non-tuberculous persons the amount injected has a more important bearing on the result produced than the level of the opsonic index on the day of injection. In all cases where a negative phase was recorded there had been greater irregularity in the opsonic power from day to day previous to injection than in those cases where no such result was observed.

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[6] Proceedings of the Royal Society, 1904, vol. lxxiv.

[7] THE LANCET, Dec. 9th, 1905, p. 1679.

[8] THE LANCET, Dec. 2nd, 1905, p. 1598.

Observations on the opsonic indices to other organisms.—The opsonic power of the serum of five control cases and a number of insane patients was estimated to the bacillus coli communis, staphylococcus aureus, and micrococcus rheumaticus, as well as to the tubercle bacillus. Johnstone and Goodall[9] found agglutinins to various strains of the bacillus colic communis in the blood of 60 per cent. of insane cases examined by them. This form of infection is common in such patients and in cases of cystitis in the asylum I have found this, or an allied organism, present in the urine. Boils and skin irritations are common amongst the insane and a staphylococcus aureus may be isolated from many such cases. The strain used during these observations was obtained from the bone marrow of a case of acute mania who died in a typhoid condition. Rheumatism in its various forms is possibly the most common ailment in the district from which the patients were drawn and although this disease does not appear to be more common in the asylum than in the surrounding district I used the micrococcus rheumaticus as a third type of common infective agents.

So far as could be ascertained none of the individuals examined were suffering from any form of illness while under examination and all carious teeth and other sources of infection were removed before any observations were made.

In the control cases the tuberculo-opsonic index was 1·08. To bacillus coli the average index for five days was 1·02, to staphylococcus aureus 1·1, and to micrococcus rheumaticus 1·07. There would therefore appear to be little difference in the average index of healthy individuals to these various organisms. The amount of variation between the average indices of each individual to the separate organisms was greatest to staphylococcus aureus and least to bacillus coli.

To bacillus coli the average index of 12 patients was 1·06. This result compares favourably with that found in the control cases but the amount of variation was greater. The tuberculo-opsonic index of the same patients was 0·97. In 15 cases tested to staphylococcus aureus the index was 1·07. In the same cases the average tuberculo-opsonic index was only 0·9. 11 cases were observed to micrococcus rheumaticus; the index obtained to this organism was 0·94, while to tubercle in the same cases it was 0·91. There is therefore little difference between the average index of the control and insane cases to these three organisms.

With the exception of bacillus coli the average opsonic index of the control cases was higher to all the organisms employed than that of the insane. The amount of variation was less in the control cases except to staphylococcus aureus. The tuberculo-opsonic index of the insane is lower than the index found to any of the other organisms in the same series of cases and the amount of variations to tubercle is greater. These observations would indicate that the insane are more liable to organismal infection than the sane, and that they have a lower resistive power to tubercle than to any other of the organisms employed.

All four control cases injected with $\frac{1}{500}$th of a milligramme of tuberculin T.R. showed a subsequent negative phase to staphylococcus aureus. Three gave a similar reaction to bacillus coli and two to micrococcus rheumaticus. Of the two cases who gave no negative phase to tubercle, one had a fall in opsonic power to all three organisms, while the other gave a similar result with bacillus coli and staphylococcus aureus. Two of these cases developed a negative phase to tubercle. One of them reacted in the same way to all the three organisms, while the other only did so to staphylococcus aureus. Of the 12 series of observations made to organisms other than the tubercle bacillus after the injection of tuberculin, in nine a negative phase resulted, that is in 75 per cent. The fifth control case was injected with $\frac{1}{750}$th of a milligramme of tuberculin T.R. No negative phase to tubercle was produced, but there was a fall in opsonic power to micrococcus rheumaticus.

Nine patients injected with $\frac{1}{500}$th of a milligramme of tuberculin T.R. were tested to bacillus coli after injection and in all a negative phase resulted. All 12 cases injected with this dose of tuberculin T.R. were tested to staphylococcus aureus and in eight a negative phase followed, that is in 66·6 per cent. Of eight cases examined to micrococcus rheumaticus, five gave a negative phase, that is 62·5 per cent. A series of 29 observations was made on the insane patients to the three organisms after injecting tuberculin and in 22 cases negative phases were produced, that is in 75·86 per cent. On comparing the results obtained in the control and insane cases to these organisms it is seen that as there was little difference in their average indices before injection so the total percentage of negative phases produced is very similar in the two classes. The percentage of cases where a negative phase was observed was less in the control than in the insane cases to bacillus coli and micrococcus rheumaticus, but greater in the control cases to staphylococcus aureus, and this was the only organism in which the variation in the indices before injection was greater in the control cases than in the insane.

Three patients were injected with $\frac{1}{750}$th of a milligramme of tuberculin T.R. and afterwards tested to the other organisms. One of them gave a negative phase to tubercle only. Two gave no negative phase to tubercle, but one of them showed this reaction to all the other organisms while the other did so to bacillus coli. Of the nine observations made to the organisms now under consideration four showed a negative phase, while in the one control case similarly tested after being injected with the same dose of tuberculin the only negative phase recorded was to micrococcus rheumaticus. There is therefore a larger proportion of negative phases produced in the insane with this dose also.

A comparison of the results obtained in the different classes of cases to all the organisms, before and after injecting tuberculin, shows that there is a difference in the resistive power to organismal invasion between them. The tuberculo-opsonic index of five control cases before injection was 1·08, to bacillus coli it was 1·02, to staphylococcus aureus 1·1, and to micrococcus rheumaticus 1·07, giving an aggregate average of 1·06. Of the cases of acute mental disease examined to two or more organisms the index to tubercle was 0·87, to bacillus coli 0·96, to staphylococcus aureus 1·01, and to micrococcus rheumaticus 0·9, the aggregate average being 0·93. The more chronic cases similarly examined showed an average index to tubercle of 0·93, to bacillus coli 1·05, to staphylococcus aureus 1·12, and to micrococcus rheumaticus 0·96, while the aggregate average was 1·01. The index recorded to each organism for the acute cases is therefore below that of the control cases and also of the more chronic patients. The index of the chronic cases is below that of the control cases to tubercle and micrococcus rheumaticus but slightly above the control index to bacillus coli and staphylococcus aureus, but the control aggregate is higher. As no acute case was injected with $\frac{1}{750}$th of a milligramme of tuberculin T.R. a comparison of the different results after injection can only be made on those who received $\frac{1}{500}$th of a milligramme of tuberculin T.R. With this dose the percentage of negative phases recorded in the control cases to all the organisms was 68·7. In the acute cases it was 80·9 and in the chronic cases 80. The percentage is seen to be highest in the acute cases and lowest in the control cases. This result corresponds with that obtained by comparing the average indices before injection and would seem to show that the resistive power of the insane to organismal infection is less than that possessed by the sane and that the more chronic are less liable to infection than the more acute cases.

Five chronic cases tested to all four organisms were injected with $\frac{1}{500}$th of a milligramme of tuberculin T.R. and a negative phase resulted in 80 per cent. Three similar cases received an injection of $\frac{1}{750}$th of a milligramme of tuberculin T.R., and in 41·6 per cent. of the subsequent observations a negative phase was noted. A very slight reduction of the dose injected has therefore a marked effect on the number of negative phases produced.

The demonstration of the specificity of the opsonic body in the blood serum is necessary to support the view that the production of a negative phase after the injection of a minute dose of tuberculin is diagnostic of infection by the tubercle bacillus. Bulloch has shown by experiments that the opsonic body is largely specific. I found that with a dose of $\frac{1}{500}$th of a milligramme of tuberculin T.R. even in absolutely healthy individuals a fall of opsonic power to other organisms than the tubercle bacillus was produced. In one control case injected with $\frac{1}{100}$th of a milligramme of tuberculin T.R., though there was a rise in opsonic power to tubercle, there was a fall to the micrococcus rheumaticus after injection. Both these doses are therefore too large for diagnostic purposes.

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[9] Brit. Med. Jour., Oct. 3rd, 1903.

The absence of local and constitutional symptoms after the injection of tuberculin was very marked. There was no local irritation and beyond a slight feeling of stiffness in the flank at the site of inoculation no inconvenience was caused, and all continued to perform their usual duties. In two control cases there was a slight increase of pulse-rate. In one it was 92 per minute on the evening after injection, while in the other it was 102 on the second evening. There was no rise of temperature, however.

The temperature chart of the insane frequently shows greater irregularity than that of healthy individuals, but the temperature and pulse-rate of the patients injected with $\frac{1}{500}$th of a milligramme of tuberculin T.R. showed no greater variation after injection than had occurred in the same cases during the preceding week.

In all 20 persons were injected with $\frac{1}{100}$th of a milligramme of tuberculin T.R. and in only three did any alteration in temperature or pulse-rate occur. Two were general paralytics. In one the temperature recorded on the second day was 99° F., while in the other the pulse-rate was 94, but the temperature was not affected, and though this patient showed evidences of old lung disease no negative phase was recorded. Such changes in temperature and pulse-rate frequently occur in general paralytics and were therefore not necessarily due to the administration of tuberculin. In the third case the temperature rose to 99·2° on the evening after injection. Such doses of tuberculin T.R. can therefore be administered to non-tuberculous persons with perfect safety.

No mental effect was produced by $\frac{1}{100}$th of a milligramme of tuberculin T.R. and though all the acute cases were inoculated with the larger dose the mental symptoms resulting were neither definite nor lasting.

Conclusions.—Some important general conclusions may be drawn from the results obtained. 1. As the insane are particularly liable to tuberculous infection a comparison of the average indices recorded in the sane and insane and also in the various classes of insane patients would indicate that the opsonic power of the blood serum can be used as a measure of liability to infection and that a low opsonic index precedes infection. 2. The injection of a small dose of tuberculin T.R. in healthy persons produces no negative phase to the tubercle bacillus and therefore may be used as a method of diagnosis. A smaller dose of tuberculin will, however, produce a negative phase in a predisposed person than in one less liable to tuberculous infection. 3. To determine the value of a negative phase after injection the daily variation in opsonic power as well as its level at the time of injection must be estimated. For this reason a number of consecutive observations are necessary; a single, or a number of isolated observations is not sufficient. 4. The average opsonic indices of healthy individuals varies little to different organisms. 5. The injection of a large dose of tuberculin even in healthy individuals causes a fall in opsonic power to other organisms than the tubercle bacillus. This explains the liability of tuberculous cases to secondary infection. For purposes of differential diagnosis by the production of a negative phase a very small dose must be administered. 6. Large doses of tuberculin can be injected into healthy persons without producing constitutional symptoms. Amount of dose may therefore be a matter of diagnostic significance as a small dose causes a reaction in infected cases.

I am greatly indebted to the members of the asylum staff and especially to Dr. L O. Bruce, the medical superintendent of the Perth District Asylum, for the encouragment and facilities afforded me while engaged in this work.

Montrose.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, VICTORIA PARK.—The festival dinner in aid of the funds of the above hospital will be held on Tuesday, June 4th, at the Trocadéro Restaurant, Piccadilly Circus, W., at 7.30 P.M. The Right Honourable the Lord Mayor of London will preside.

ON THE CLINICAL ASPECTS OF METASTASES TO THE CENTRAL NERVOUS SYSTEM AND OTHER PARTS IN MALIGNANT DISEASE OF THE VISCERA.

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IN one of his articles on "The Medical Aspects of Carcinoma of the Breast" Professor W. Osler states that "in many cases of internal metastases in cancer of the breast th symptoms are obscure or there are features which make th diagnosis doubtful." In illustration of this general proposition Professor Osler quotes a number of case records whicl show that the clinical difficulties created by such metastase arise from a variety of causes. In some cases the primar growth in the breast fails, on account of its small size, t attract attention, or it possesses features which conceal it true nature. In others, though the breast tumour has bee recognised and removed, so long an interval has elapse before the clinical evidences of internal metastases displa themselves, that their real significance and relationship ar overlooked. And in a third group, while one or other o the positions just defined may also exist, the symptom caused by the metastases are so purely subjective that a interpretation of them as merely functional disturbances i readily adopted. This last-mentioned position seems to b reached in connexion more particularly with the development of secondary malignant tumours in the spinal canal and situated so as to involve either the spinal cord itself or the posterior roots of the spinal nerves. Pains in the back and side, often indefinite and ill-defined as to position, and sometimes becoming of agonising severity, "may persist for months," says Professor Osler, "without any sign of organic disease"; and even throughout the course of the illness—a period possibly of two years, or even longer—there may be no disturbance of either motion or sensation. In short, the diagnosis of metastases secondary to carcinoma of the breast may be missed, from non-recognition of the original tumour, from delay in the occurrence of the metastases, or from restriction of the clinical evidences to the subjective sensations of the patient.

It is now proposed to describe briefly some clinical experiences which show that what is true, as stated above, of carcinoma of the breast and its secondary developments applies equally to carcinoma of the viscera and the metastases which may result therefrom. In one direction, at least so far as the non-recognition of the primary growth is concerned, this statement has no unfamiliar sound. Thus it needs but a moderate acquaintance with the facts of clinical medicine to learn of cases of secondary cancer of the liver in which neither the history nor the physical examination gives any hint of the site, or indeed of the existence, of a primary malignant process. It happens that the clinical facts and associations of the secondary growths in such cases are often very conspicuous and free from ambiguity. Further, experiences of this order are relatively frequent events. Hence, here, not only are the results of the metastatic process usually recognised easily but custom removes the surprise which might otherwise be expressed at the absence of all evidences of a primary tumour. It is not unimportant to illustrate the proposition that a very similar order of events may be noted when the primary disease takes origin in organs other than the alimentary canal—such, for example, as the lung, the pleura, or the bladder—and when the secondary growths appear not in the liver but in the central nervous system, the bones, or other parts. Primary malignant disease of the lung or bladder, as is shown in cases recorded in this article, is by no means always in its clinical aspect an urgent and distinctive process, and the symptoms resulting therefrom may fail altogether to suggest the serious conditions on which they, as a matter of fact, depend. Hence secondary or metastatic developments in such cases may readily fail to secure an accurate and ready interpretation, and if, as may be the case, the symptoms arising from such developments are entirely subjective in character, it is hardly surprising to find that they are apt to receive something less than clinical justice. The moral obviously is that with evidences of visceral disease of more or less obscure significance, and possibly, therefore, indicative of a malignant growth, subsequent disturbances, even though remote in time and situation and wanting in precision, should be regarded with active suspicion. Pain, particularly if severe, obstinate, or recurring, or referred to the back, or to the course of one or more of the spinal nerves, cannot, in such circumstances, be safely dismissed as hysterical or neurotic because of its freedom from association with objective signs of organic disease; the event may pass a painful commentary on such a conclusion. The only safe course is to suspend judgment, with a leaning, perhaps, to the more serious view, until either the appearance of conclusive evidence on the one hand, or the lapse of time without any such demonstration on the other, places the issue beyond dispute. Certain it is that definite proof of metastases subsequent to primary malignant disease of the viscera, at least when the nervous system is the part secondarily involved, may not be obtained until very shortly before the patient's death, and it is conceivable that such proof may even never appear. In the first two of the following cases the primary malignant process, in one case in the lung, in the other in the bladder, gave rise to a mere minimum of local disturbance and to no admitted invasion of the general health and strength, and the patients were comparatively young women. There was thus in each instance little or nothing to excite active suspicion of the true nature of the primary visceral disease. Hence, when nervous symptoms appeared as a result of metastatic extensions their relationship to the earlier symptoms of visceral disease was not easily suggested and there was a temptation to suppose that the sequence was a purely accidental one. Further, the nervous symptoms were comparatively long in existence before objective demonstration of their association with organic change could be obtained. These two cases, therefore, illustrate the propositions which have already been stated. In a third case, whilst there was no doubt about the nature or the site of the original disease, the visual disturbance (hemianopsia) affords an interesting illustration of one among the many possible results of malignant metastases to the central nervous system. A fourth case is added to show how metastases to the bones may bear on the diagnosis of malignant disease of the viscera, the lung in this particular instance being the organ primarily involved.

CASE 1. *Malignant disease of the lung without active symptoms; later, severe pains in the lower limbs; evidence of intracranial disease a few days before death.*—The patient was a woman, aged 37 years, for whose earlier history I am indebted to Mr. Ernest W. Cross. With the exception of an ovarian cyst, which was removed by operation in 1902, the patient was free from serious illness until July, 1905; she then had an attack of pleurisy at the left base. The pyrexia and friction disappeared in the course of a few days, but some intra-pulmonary crepitations were detected, and later there were physical signs of a moderate amount of pleural effusion. In November she was admitted to the Royal National Hospital for Consumption at Ventnor, where she improved generally, and the evidences of pleural effusion diminished. There was no expectoration and thus no search could be made for the bacillus of tubercle. Shortly prior to her admission to the hospital at Ventnor she had complained of pains in the lower extremities, and these became increasingly severe in the latter part of November, often then preventing sleep and demanding the use of morphine. When seen on Dec. 18th the patient appeared to be a well-nourished woman, and her sole complaint was of pain in her lower limbs; the chest condition gave her no trouble. Nevertheless, there were signs of consolidation at the left base and some moist râles were present during inspiration. On physical examination no explanation of the pains could be detected, all the usual clinical tests of the condition of the nervous system giving normal results. On the 21st the patient was admitted to the Royal Waterloo Hospital, and in the course of a day or two it was observed that her speech had a slurred quality and that her mental condition was not clear. Soon she became noisy and semi-delirious and it was then found that double optic neuritis had developed. There were no other evidences of organic nervous disease and the temperature was normal or subfebrile. Afterwards the patient became comatose and died on Jan. 8th, 1906.

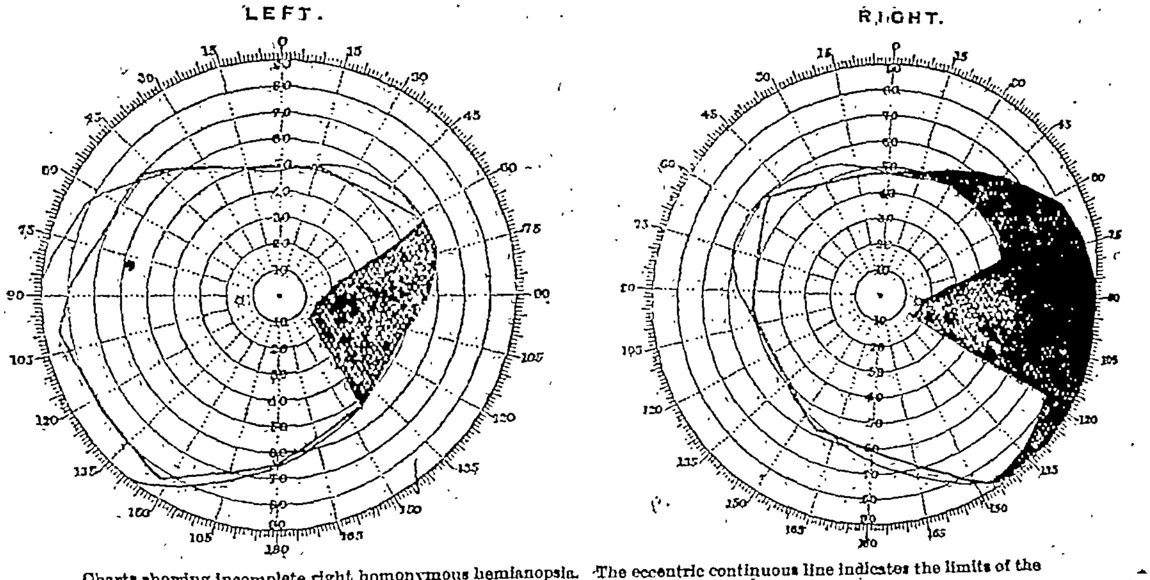
The post-mortem examination showed malignant disease (carcinoma) involving the lower third or so of the left lung and some scattered malignant nodules in the liver. Of chief interest, perhaps, was the condition of the brain. Here, in the soft membranes over the convexity of the hemispheres, were several localised hæmorrhages. The largest, having a diameter of about one inch, was situated immediately behind the upper part of the right Rolandic fissure; superficially it had a pale jelly-like appearance and deeply it passed into the sulci and to a slight extent had torn its way into the brain tissue. A smaller hæmorrhage was present about the middle of the left parietal lobe and several others were scattered over the convolutions. With these exceptions the brain appeared to be normal; the spinal cord unfortunately could not be examined. There can, however, be no doubt that either the cord itself or the posterior nerve roots were directly disturbed by a secondary malignant process and that in this way are to be explained the severe pains which formed the prominent feature of the case. Hence it is of great interest to note that at no time, and in spite of repeated examinations, were there discovered any abnormal conditions of the tendon jerks or other objective facts suggestive of organic disease of the cord. The pain was the one and only piece of clinical evidence of the existence of organic change of a malignant order in the lower part of the central nervous system. And it was not until a very few days before death that a demonstration of organic disease in any part of the nervous system could be obtained. Of great interest, too, is the development of optic neuritis in relation to the actual intracranial lesion demonstrated at the necropsy. There were no meningitis and no tumour, at least in the ordinary sense of the term. Yet it may be held that the blood-clot on the surface of the cortex was the physical equivalent of a tumour and that it must bear responsibility as the cause of the neuritis. The only alternative, as an explanation of the neuritis, seems to be embolism of the central artery of each retina. Bilateral retinal embolism is not an easy diagnosis to accept, and, moreover, the ophthalmoscopic picture was the one familiar in optic neuritis and in no respect resembled that of embolism. Thus it seems certain that a blood-clot of moderate size and situated over the cerebral convolutions may cause optic neuritis, and presumably by the same mechanism, whatever that may be, as the one by which intracranial tumour establishes this result. Indeed, a blood-clot in such circumstances may come under the definition (Hughlings Jackson) of tumour as a "foreign body or adventitious product" within the skull. But if this is true of a clot outside the blood-vessels it is conceivable that the same conclusion may apply to an intravascular clot situated in the cerebral veins or sinuses. Both in the one case and the other the bulk of the cranial contents is presumably increased. And as it has been suggested that the optic neuritis which occasionally occurs in chlorosis is to be explained as the result of sinus or venous thrombosis, the present case may be quoted as lending some support to this doctrine. Hence, in addition to the illustration which the case affords of the at times quiescent character of malignant disease of the lung, and of the clinical obscurity which often attends secondary malignant developments in the central nervous system, the record is not without relationship to the problem presented by the occurrence of optic neuritis in circumstances where there is reason to disbelieve in the existence of gross intracranial disease.

In the case next following double optic neuritis is found in association with a tumour situated in the cerebral cortex and it will hardly be questioned that the relationship of these two facts is that of cause and effect. The only difference between the two cases, in this respect, is that in the one first related the "foreign body or adventitious product" in the cortex is a blood-clot and not a neoplasm. To regard this clot as the cause of the optic neuritis, therefore, seems inevitable, and granted this, it is no large step to the proposition that a clot situated elsewhere within the skull (for example, in one or other of the intracranial sinuses) may also conceivably produce optic neuritis.

CASE 2. *Metastases to brain secondary to carcinoma of the bladder; occasional hæmaturia the only symptom of the primary disease; headache of some months' duration and followed by ocular paralysis and double optic neuritis.*—The patient, a woman, aged 39 years, came to hospital complaining of pains in the head, "worse than an ordinary headache." The pains had troubled her for two or three months and recently had "caused" her to see double. The personal history was one of good general health, though in the course of the inquiry the patient stated that she had "for years" passed blood in the urine "every two months." Examination showed homonymous diplopia increasing to the right, though no manifest defect in the action of the right external rectus muscle could be appreciated; and the optic discs were regarded as "definitely suspicious." Otherwise there were no evidences of organic disease and in particular the urine contained neither albumin nor blood. The patient declined admission to the hospital but returned in a fortnight's time with obvious defect in the action of the external rectus of each eyeball and with marked double optic neuritis; the urine now contained blood, but no tube casts or other renal elements could be found. After admission to the ward headache and vomiting were troublesome symptoms, but beyond the ocular paralyses and the optic neuritis nothing further was discovered; and in the course of some ten days the patient became comatose and died. In view of the urgency of the cerebral symptoms no systematic attempt was made to examine the bladder, and the single fact of hæmaturia when taken together with the somewhat indefinite history of the bleeding contributed by the patient, caused this aspect of the case to receive less than its due share of attention. Yet at the post-mortem examination it was found that the cause of the hæmaturia—namely, a malignant ulcer at the fundus of the bladder—was the starting-point of the whole train of subsequent symptoms. For in the cortex of the parietal lobe of the left cerebral hemisphere was a considerable malignant tumour (carcinoma) and several small nodules of malignant growth were found scattered in the cortical substance of both hemispheres. There were no growths at the base of the brain and the paralysis of both sixth nerves must have been due to the general increase of the intracranial pressure consequent on the growths in the upper part of the cerebrum—an illustration of the familiar fact that a sixth nerve paralysis has little or no localising value. Some nodules of malignant tissue were found in each lung.

Here, as in the first case, the primary malignant disease caused little disturbance. Indeed, it was only when headache became troublesome that the patient thought it necessary to seek medical advice. Further, the headache had been in existence for two or three months before objective evidence of organic intracranial disease could be detected. And even then the connexion between the hæmaturia, on the one hand, and the cerebral symptoms on the other, was far from obvious. The case may thus be placed as a parallel to those instances of mammary cancer in which the primary tumour is not recognised and in which, therefore, the interpretation of symptoms arising as a result of metastases to other organs is rendered difficult or impossible.

CASE 3. *Malignant disease of the lower bowel followed by right homonymous hemianopsia.*—In this instance there was no uncertainty in the diagnosis of the primary growth, as the patient, a man aged 60 years, had been operated on for malignant disease of the lower bowel. Shortly after the operation he complained that he could not see to his right side and on taking his visual fields the charts as shown in the illustration were obtained. In view of the right homonymous hemianopsia it seems certain that the patient was the victim of secondary malignant disease in the hinder part of the left visual tract and the incompleteness of the visual defect suggests the left half vision centre in the occipital lobe as the probable site of the secondary lesion. There was, at the time the charts were taken, no optic neuritis or other sign of cerebral disease. Unfortunately, the patient could not be traced at a later date and thus the subsequent developments can only be surmised. Though the case seems free from diagnostic difficulties it is not without interest in the discussion of involvement of the nervous system secondary to malignant growths in the viscera of the chest and abdomen.



Charts showing incomplete right homonymous hemianopsia. The eccentric continuous line indicates the limits of the average normal field of vision.

CASE 4. *Malignant disease of lung; metastasis to femur.*—In the latter part of the paper already quoted Professor Osler refers to metastases to the bones secondary to cancer of the breast and here again the sequence may find its parallel in cases of malignant visceral disease. In a patient recently under observation, a man, aged 62 years, the diagnosis of malignant disease at the base of the left lung came to be doubted, if not by the medical attendants, at least by th patient's friends, in consequence of the cessation of all activ symptoms, and of some improvement in the patient's genera condition during a period extending over several month Somewhat suddenly, however, as the patient was walkin across his room, he became conscious of a severe pain in hi left hip and of inability to use the limb. There was grea tenderness over the neck of the femur but no actual tumou could be detected. The patient, however, never regaine power over his limb and, without much evidence of renewe activity in the diseased lung, gradually lost strength and died about three months after the above event. The absence of any definite tumour of the thigh cannot be regarded as sufficient to neutralise the presumption that the patient was the victim of a secondary malignant growth in the upper part of the femur and that to this the pain, tenderness, and helplessness of the limb must be directly credited. In this case the metastasis was an occurrence which, so far from confusing the diagnosis of malignant disease of the lung, strengthened that opinion at a time when the general condition of the patient appeared to bring the original view more or less definitely under suspicion.

References.—In addition to Professor Osler's articles (American Medicine, April, 1901, Brit. Med. Jour., Jan. 6th, 1906), and to the records quoted with these, recent interesting examples of malignant metastases to the brain and spinal cord have been reported by Spiller and Weisenburg (Journal of Nervous and Mental Disorders, August, 1898), and by Pinatelle and Cavaillon (quoted in Epitome, Brit. Med. Jour., July 14th, 1906. The following may also be consulted: Tumour in Wall of Heart Secondary to Cancer of Œsophagus, Travers Smith, Brit. Med. Jour., Jan. 27th, 1906; Secondary Carcinomatous Growths simulating Tuberculous Hip-joint Disease and Miliary Tuberculosis, R. E. Lord and W. Buckley, ibid., Jan. 27th, 1906; Secondary Malignant Disease limited to the Left Lobe of the Liver and the Suprarenal Capsules, C. O. Hawthorne, Glasgow Medical Journal, February, 1895; Cancer of the Stomach with Extension to the Lymphatic System through the Thoracic Duct, H. G. Turney, Transactions of the Pathological Society of London, vol. xliv.; Mitchell Stevens, Brit. Med. Jour., April 28th, 1906; and Nathan Raw, ibid., June 14th, 1905.

A CASE OF PARATYPHOID FEVER FOLLOWING THE REMOVAL OF AN OVARIAN CYST.

BY WILLIAM THYNE, M.A., M.D. EDIN.,
SURGEON TO THE VICTORIA COTTAGE HOSPITAL, BARNET; AND MEDICAL SUPERINTENDENT OF THE BARNET ISOLATION HOSPITAL.

A WOMAN, aged 38 years, was admitted to the Victoria Cottage Hospital, Barnet, on Dec. 30th, 1906. On Jan. 8th, 1907, assisted by Mr. W. H. Elam, I removed an ovarian cyst of about the size of a football with doubly twisted pedicle and omental adhesions. The patient appeared to make an excellent recovery until the 21st (23 days after admission), when her temperature began to rise, reaching 101° F. on the evening of the 23rd, and continuing between 100° and 101° until the 29th, when it reached 102°; her appetite became impaired and she had a feeling of indefinite illness. The temperature became continuously higher, reaching 103° on the 31st. The bowels, which had previously been constipated, acted once daily, the stools being loose and of pea-soup consistency and appearance. Rose-coloured spots similar to those seen in typhoid fever appeared on Jan. 28th and for a few days following. No enlargement of the spleen could be detected. No cause for her symptoms could be traced to the operation. On the 30th the Clinical Research Association reported: "This serum does not show the reaction characteristic of typhoid fever." On Feb. 4th a similar report was received, but with the suggestion that "possibly the case is one of paratyphoid." On the 5th the patient was removed to the isolation hospital. On the 8th the Clinical Research Association reported: "With paratyphoid strain B, this serum gives clumping reactions with dilutions of 1–10, 1–25; with a 1–50 test the reaction obtained was very feeble. We again tried the serum with two different strains of B. typhosus. No reaction was obtained even with the 1–10 dilution. The results obtained with the paratyphoid strain were not sufficiently marked to be conclusive." On the 9th a report from Dr. G. L. Eastes stated: "A moderate amount of clumping was obtained when mixing the blood with a broth culture of the paratyphoid bacillus of Brian and Kayser in all dilutions up to 1 per cent." On Feb. 5th the evening temperature reached 103°; on the 6th, after 16 days of fever, it dropped to 98·6° and did not rise again. The fall of temperature was accompanied by profuse sweating. On the 20th the patient was discharged recovered from the hospital.

I have considered the case worthy of record, it being the first of its kind that I have come across. It is probable that examples of this disease occur more frequently than is supposed and many must be overlooked. When it is diagnosed and treated as typhoid fever no harm can result; but when, as in my case, Widal's reaction for typhoid fever is repeatedly found to be negative and the case is a mild one the diet is likely to be less restricted than it should be, disinfection may be neglected, and the consequences may be serious. ~~It is only by a bacteriological examination of the blood that~~ typhoid and paratyphoid fevers can be distinguished. The fact that the pedicle was doubly twisted adds additional interest to the case.

High Barnet.

ROYAL METEOROLOGICAL SOCIETY.—The annual dinner of the Royal Meteorological Society will be held at the Trocadéro Restaurant, Piccadilly, W., on Tuesday evening, June 18th. The dinner will be at 7.0 P.M. and the price of the tickets will be 20s. with wine or 8s. 6d. without wine. Application should be made to the assistant secretary, 70, Victoria-street, Westminster, S.W., by June 4th.

PERFORATION IN TYPHOID FEVER AND ITS RELATION TO THE BLOOD PRESSURE;

WITH A REPORT OF FIVE CASES.

BY A. LEWIN SHEPPARD, M.B., B.S. DURH.,
HOUSE PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY.

ONE of the signs of perforation of the intestine in typhoid fever that have recently been brought to our notice is a rise of blood pressure immediately following the catastrophe. At present, however, so few records have been published that Janeway[1] remarks that "full reports of all such cases should be made, that the value of the blood pressure chart, both as positive and negative evidence of perforation, may be established."

During the past year I have had the opportunity of observing an epidemic of an exceptionally severe type, in which 45 per cent. of the fatal cases were due to perforation, and as the blood pressure was carefully watched in each instance the results should be worth recording. I am indebted to Dr. J. E. Shaw, Dr. F. H. Edgeworth, and Dr. A. B. Prowse, under whose care the cases were admitted, for allowing me to do so. Up to the present time five cases have been reported by Crile,[2] who found that the blood pressure rose in every case immediately after perforation, as his figures show.

No 1	Blood pressure	rose	from	116 to 190 in four hours.
No. 2	„	„	„	84 „ 110 promptly.
No. 3	„	„	„	116 „ 165 in two hours.
No. 4	„	was 155.		Previously unknown.
No. 5	„	„ 223.		Previously unknown.

The same observer found the average blood pressure in 115 cases of enteric fever to be 104, varying between 138 and 74, the pressure as a rule gradually decreasing till the fourth or fifth week, when the average was 96 and 98.

In 41 cases where I made observations during, or about, the fourth week, the average blood pressure was 98. Briggs[3] also records a case in which the blood pressure rose from 106 to 144 in four hours and four hours later the patient suddenly developed typical signs of perforation. This anticipation he explains by suggesting that the resultant inflammation did not reach the parietal peritoneum for eight hours after the accident. He also mentions a case showing a negative result, in which the pulse rose from 152 to 170, and the leucocytosis from 7000 to 17,000, with no rise of blood pressure and no perforation.

The following is a brief summary of the cases I have observed.

CASE 1 (under the care of Dr. Shaw).—A man, aged 20 years, was admitted on the twenty-first day. It was a typical severe case. On the twenty-fifth and two following days there was slight hæmorrhage in the motions. On the twenty-ninth day the blood pressure was 88. On the next day at 4 P.M. the temperature was 100·2° F. and the pulse was 120. At 4.30 he complained of abdominal pain and at 6.30 the pulse was 140 and the blood pressure was 116. The pulse rose to 170 at 9.0, but at 10.30 it had fallen again to 130 and the blood pressure to 90. Leucocyte counts made at 6.30 and 10.30 were 5330 and 5740 respectively. The surgeon then saw the case but did not advise operation as the patient appeared better. 26 hours later laparotomy revealed a large perforation, at which time the pulse was 136, the blood pressure was 92, and the leucocytes had only risen to 5945. The patient died two hours later.

CASE 2 (under the care of Dr. Shaw).—A girl, aged 19 years, was admitted on the sixteenth day. The attack was a mild one. The blood pressure was 97. She got worse till the forty-third day, when she had a rigor, after which the temperature fell during the night from 103·2° to 97·8° F. The pulse was 116, the blood pressure was 94, and a leucocyte count gave 3660. On the forty-seventh day at 5.15 P.M. she said that she had had pain since 4 o'clock, but it was now worse. At 5.30 the pulse had risen to 150 from 120 and the temperature to 102° from 100°, and there was a leucocytosis of 11,160. The blood pressure was not below 110, but the patient was too restless and the pulse too small to allow an estimation with any accuracy. Laparotomy at 6 P.M. showed a small perforation and about six inches higher up the gut a patch of less recent peritonitis, which probably meant that there had been a slight leakage from another ulcer four days before, when the rigor had occurred. The patient died in four days. Widal's reaction in this case was always negative, though tried five times.

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[1] The Clinical Study of Blood Pressure, p. 226.

[2] Journal of the American Medical Association, 1903, vol. xl., p. 1292.

[3] Boston Medical and Surgical Journal, 1903, vol. cxlix., p. 343.

CASE 3 (under the care of Dr. Shaw).—A man, aged 24 years, was admitted on the fifteenth day. The blood pressure was 136. It was a typical case. On the twentieth day he complained of abdominal pain at 5 P.M. The blood pressure was 120, the pulse was 94, and the temperature was 101·2° F. At midnight the temperature was 104·8° but the pulse had not risen. 12 hours later the pulse was 80, the temperature was 98·2°, and the blood pressure was still 120. The leucocyte count was 8800. The pain continued and he vomited. The diagnosis was doubtful but in any case he was considered to be too bad to operate. Signs of peritonitis became definite and the patient died on the next day. There was no post-mortem examination but perforation had undoubtedly occurred.

CASE 4 (under the care of Dr. Prowse).—A man, aged 34 years, was admitted on the twenty-fifth day. It was a very severe case. Slight hæmorrhage occurred on the twenty-ninth day. The pulse was 124, the temperature was 105° F., the blood pressure was 112, and the leucocytes were 6400. Some pain was present. The motions became of normal consistency and well formed about the fortieth day. On the forty-third day he had a rigor and was distended, sweating, and delirious. The blood pressure was low but was not able to be estimated exactly owing to the restlessness of the patient and the smallness of the pulse. The leucocyte count was 11,600. There was subcutaneous hæmorrhage on the right side of the buttock. There was hæmorrhage in the motions on the forty-fourth, forty-sixth, and fifty-third days; and on the sixtieth day, the blood pressure then being 94, there were three violent hæmorrhages from the bowel, about three pints in all. He collapsed and died. The pulse could not be felt. Post mortem there were adhesions between the intestines and abdominal wall. All ulcers but three had healed. The base of one was entirely gone and the abdomen was full of blood. The other two ulcers had destroyed the coats of the bowel down to the peritoneum. In this case the perforating symptoms were masked by the hæmorrhage, but observations made during the course of the illness were interesting, though negative on account of the continual weakness of the pulse.

CASE 5 (under the care of Dr. Edgeworth).—The patient was a youth, aged 18 years, who had walked about till admission on the fourteenth day. It was a typical case. On the seventeenth day the blood pressure was 90. On the nineteenth day the pulse was 112; there was very slight abdominal pain all night. At 5 A.M. the pulse was 116 and the temperature was 101° F. At 7 A.M. the pulse was 152. At 8.30 the pulse was 158, the temperature was 101·2°, the blood pressure was 92, and the leucocyte count was 4800. The patient died at midday. Post mortem several acute and deep ulcers were found. One had perforated.

The accompanying table shows the various symptoms as they followed perforation.

Looking at the table we see that the *pulse* rose in four cases, and in No. 5 was the only marked feature. *Peritoneal symptoms* were diagnostic in one case, while some pain was present in all. The *temperature* rose in three cases but fell later. *Leucocytosis* was marked in Case 2, but here other signs were also unmistakeable. In the other cases there could have been no great rise although the previous figures were not known. The *blood pressure* with which we are chiefly concerned here was in no case the only sign, and no great rise was recorded in any, the maximum change being only 28 mm. Hg. In Case 2 the pressure probably exceeded 110, but here, as in Case 1, there were other signs equally valuable and more decisive.

Conclusions.—From these results the rise of blood pressure does not appear to be as certain, and consequently as valuable, a sign as Crile's figures would indicate. The signs of perforation, however, are notoriously uncertain; and in no case of typhoid fever with fairly sudden abdominal pain, combined with any one well-recognised sign (providing there is no other ascertainable cause), should we hesitate to diagnose a perforation. Amongst these signs should certainly be placed a rise of blood pressure. It seems quite as constant as leucocytosis, and is certainly more easy to observe and chart throughout the course of the disease. A disadvantage that may arise, as I found in Case 2, is that owing to restlessness it may be impossible to make an accurate estimation. It will not be common to meet with cases like No. 4, where violent hæmorrhage occurring with perforation renders the pulse imperceptible. In any such case, however, the seriousness of the condition is obvious and the loss of the knowledge of the blood pressure immaterial. All my estimates were taken with Martin's modification of a Riva-Rocci sphygmomanometer.

In the diagnosis of perforation we must remember that the signs are nearly always most marked about two hours after the accident has occurred, after which they are usually found to return to their previous conditions and consequently impressions likely to be made on those who see the case at a later stage are often liable to be misleading. The change in blood pressure is no exception to this rule as the tendency seems for it to fall again to its original level as rapidly as it has risen.

TABLE SHOWING THE VARIOUS SYMPTOMS AS THEY FOLLOWED PERFORATION.

Case.	Pain.	Pulse-rate.	Temperature.	Leucocyte count.	Blood pressure.	Peritonism.	Vomiting	Collapse.
1	Slight.	120 to 170 in 4½ hours, followed by fall to 130.	100·2° to 104° F. in three hours, followed by fall.	5945 after 30 hours.	88 to 116 in two hours, followed by fall to 90.	Slight.	No.	No.
2	Yes.	120 to 150 in two hours.	100° to 102° F. in two hours.	3600 to 11,160 in two hours.	94 to 110 (or more) in two hours.	Decided.	No.	Yes.
3	Slight.	94; no change.	101·2° to 104° F. in seven hours, followed by fall to 98·2° 12 hours later.	8800 maximum.	120; no change.	Late.	Yes.	No.
4	Yes.	*128 to 160; running.*	98° to 97° F.	Previously 11,600.	Impossible to estimate.	Yes.	No.	Extreme.
5	Slight.	116 to 150 in two hours	101·2° F.; no change.	4800 maximum.	92; no change.	Slight.	No.	Late.

With the exception of *one case* with severe bronchitis in an old woman in whom the pressure rose from 114 to 130, the negative evidence in the above cases and in others I have investigated has gone to prove that there is no sudden rise of blood pressure in any of the other complications—in which this sign probably stands by itself—as distension, slight pain, leucocytosis, and a rise of pulse may each occur in other circumstances. Summing up, therefore, we may generally regard a rise of blood pressure as positive evidence of perforation; although a stationary pressure is no indication that the catastrophe has not occurred.

Royal Infirmary, Bristol.

EVERSFIELD CHEST HOSPITAL, ST. LEONARDS-ON-SEA.—At a meeting of the committee of the above-named hospital in the offices of the honorary solicitor, Mr. J. Sladen Wing, 1, Delahay-street, Westminster, held on April 27th, Mr. Edmund S. Hanbury being in the chair, to consider the necessity of increasing the accommodation, enlarging the out-patient department, and considerably widening the existing balconies that more patients might be able to undergo the open-air treatment than at present is possible, the solicitor announced that a client of his had offered £1000 to help to carry this project into execution.

STATUS LYMPHATICUS.

BY LOUIS VINTRAS, M.D. DURH.,
PHYSICIAN TO THE FRENCH HOSPITAL AND DISPENSARY.

THE status lymphaticus is a well-recognised condition on he continent, and especially in France, where "*nature ymphatique*," "*constitution lymphatique*," and "*sujet lymphatique*" are current terms. As its name implies, the status lymphaticus is more a constitutional condition than a disease *per se*. In the "Manual of Practical Medicine" of Hufeland, physician to the King of Prussia, translated into French by Jourdan in 1848, there is a concise and very fair description of this condition in the chapter on Diagnosis. "Laxity of the fibres, flesh spongy and flabby, pastiness, paleness, want of warmth; subjects having this constitution are sensitive to cold and in complexion ordinarily fair; they have a disposition to catarrhs, to accumulations of mucosities in the organs of the head, of the chest and of the pelvis, to serous and lymphatic extravasations, to discharges and passive congestions, to incomplete crises and to a general tendency for their ailments to assume a chronic character." Hufeland makes a useless division between what he calls watery or relaxed constitutions and lymphatic or mucous constitutions, since he gives the same description for both and they are evidently one.

Though scientists have long been fully alive to the importance of this condition. it is astonishing how small is the attention which has been given to it; but this probably arises from the paucity of our knowledge of the diseases, and, indeed, of the physiology, of the lymphatic system. In some way or other the lymphatic diathesis has during the last 20 years or so receded from the attention of the medical mind and has been variously mixed up with neurotic, scrofulous, tuberculous, and even syphilitic conditions. The confusion with neurotic tendencies has only been the result of the overwhelming interest taken in nervous diseases and a readiness to include every morbid condition insufficiently understood in this convenient and fashionable category. But the lymphatic and neurotic temperaments have but few points in common and the former subjects are less prone than many others to neurotic affections. Of course, a morbid condition of the nervous centres may influence the lymphatic system as it may influence the circulatory or muscular systems or any organ of the body.

That there is no connexion between the lymphatic diathesis and the other conditions enumerated Trousseau emphatically stated already in 1868, in his "Clinique Médicale de l'Hôtel Dieu de Paris." In the ninety-sixth lecture, speaking of the etiology of adenie, he says: "Can we attribute the lymphatic affection to any known diathesis? Can the constitutional diseases known as scrofulous, tuberculous, cancerous, and syphilitic be invoked to explain the generalised hypertrophy of the ganglions? Evidently no ......" And after giving his reasons for this opinion he continues: "We are thus constrained to admit the existence of a new, *special* diathesis, unknown in its essence, and which we will call *lymphatic diathesis*. This diathesis would be characterised by the tendency in certain subjects to present, under a determining cause, ganglionic enlargements at first localised and which become generalised in the space of from eighteen months to two years." Trousseau here speaks as though adenie were the only morbid manifestation of this diathesis, but we have made progress since those days and have a wider perception of the range of affections of the lymphatic system. It is this question of glandular enlargements which has brought about the confusion between this and other constitutional conditions, for it has been sought to establish a connecting causative link between the idiopathic enlargements of adenie and the secondary enlargements of other diseases due to irritation or absorption. There can be no such connecting link and this once established clears the way for a definite understanding of the particular condition under consideration. The lymphatic diathesis is not easy to diagnose but the following data will afford some help. It occurs mostly among tall, rather sparsely built subjects, with fair, clear skins, rather pale, but not with the dead white pallor of anæmia. The pastiness alluded to by Hufeland is only a much later symptom and may not be present at all. They are of a slow sedentary habit of life, they are mostly highly intelligent but in a deep earnest way; they are self-concentrated, shy with strangers, and of a retiring disposition, but genial and brilliant when at their ease among friends. They are very sensitive to climatic influences and they feel the cold keenly. They are in appearance listless and careless and give the impression of being indifferent to things in which inwardly they are greatly interested. They are emotional but suppress their emotions. Their fits of anger are concentrated and they are still and turn to a death-like pallor, where others flush red and fly into a passion. There is nothing about them of the spasmodic excitability of the nervous temperament, nor of the hopefulness of the tuberculous temperament. Their pulse is usually slow, sometimes very slow, averaging as low as 45 to 50; but under the stress of worry or emotion their pulse-rate will rise to above 100 and remain so for days and even weeks without any apparent ill-effects. It is the same with the heart beats, and it is this which constitutes one of the chief dangers of this condition. Under some strong emotion, but often without any cause, the ratio of the heart beats will double or treble, not in the irregular way, typical of nervous palpitations, but with a steady rise, the heart maintaining a perfectly regular but highly accelerated action. I believe that in these cases the flabby walls of the heart become suddenly dilated and as suddenly return to their former state. It is quite comprehensible that during such a paroxysm any interference with the nerve centres may cause the dilated walls of the heart to cease contracting. I think that this accounts for many cases of sudden death where no adequate pathological lesion seems to exist. In such subjects the muscles are mostly semi-relaxed, and are rarely in a state of tension; they never, so to speak, stand at attention. They have a peculiar stoop, which is not due to any deformity of the chest or any weakness of the spine, but to this relaxed condition of the muscles of the back and neck. The skin is also relaxed and soft, with a marked tendency to local excessive action of the sweat glands, especially those of the hands and feet. The hair is thin and silky and falls early. There are a lack of brilliancy in the eyes, which are often watery, and a distinct want of fixity in the gaze due merely to the flabby and usually relaxed condition of the muscles of the eyeball. The same condition of the facial muscles often gives a vacant expression which disappears when the attention or interest of the subject is roused. In fact, whereas we describe the nervous subject as being overstrung we may aptly describe the lymphatic subject as being generally understrung.

Such subjects it is in whom a cold in the head or an attack of bronchial catarrh will drag on for weeks and even months, in spite of treatment, and then cease suddenly without any reason; in whom gonorrhœa, notwithstanding the greatest care, will degenerate into gleet, and after months, or even years, finally disappear in the same inexplicable way or, on the other hand, set up joint trouble, the effects of which may be irremediable. An attack of pleurisy is particularly dangerous to the lymphatic subject as the pleural cavity when emptied will fill again and again with despairing persistency. With them the recovery from acute diseases is always tedious and they are subject to relapses. A slight injury will often cause the gradual formation of a cold abscess which may attain a size out of all proportion to the cause. It is unnecessary here to multiply these examples and I will only add that, if the lymphatic temperament has some very decided disadvantages, it has also certain advantages, for as far as my experience goes it seems less liable than other constitutions to neurotic and tuberculous affections. The status lymphaticus has also a distinct tendency to improve with advancing years, and where it has caused no serious organic lesions the subject will comparatively feel stronger and enjoy better health during the second than he has during the first part of life.

Regent's Park-road, N.W.

WHITBY COTTAGE HOSPITAL.—In THE LANCET of Dec. 22nd, 1906, p. 1760, we mentioned that the whole of the honorary medical staff of this hospital had resigned owing to differences of opinion between themselves and the governing body of the institution. Since that date conference after conference has been held between the medical men and the governors during which time the hospital was closed. On May 4th, however, a special meeting was held in the Church House, Whitby, at which it was announced that as a result of the final conference new rules had been drawn up to which both sides agreed. These rules were passed after some minor alterations in details had been made. The dispute may now, therefore, be considered as at an end, though it necessitates the closing of the out-patients' department, for which "Captain Cook's" House was recently bought.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

BRADFORD ROYAL INFIRMARY.

A CASE OF CONGENITAL DIVERTICULUM OF THE STOMACH AND DUODENUM IN A PHYSIOLOGICAL HOUR GLASS STOMACH.

(Under the care of Mr. W. H. HORROCKS.)

FOR the notes of the case we are indebted to Dr. A. W. Falconer, late house physician.

The patient, a male, aged 54 years, was admitted into the Bradford Royal Infirmary on Sept. 18th, 1906, under the care of Mr. W. H. Horrocks, suffering from a self-inflicted gunshot wound of the head and died within a few minutes of admission.

On opening the abdomen the stomach was found lying obliquely extending downwards and to the right, the pylorus being hidden under the liver. In the middle of the greater curvature was a marked constriction dividing the stomach into two almost equal parts. On removal the stomach was quite empty, it having previously been washed out under the impression that the man might have taken poison. It was markedly bi saccular, the division being caused by a tucking in of a portion of the greater curvature, forming a tube about 2½ inches in length, which felt thicker than the rest of the stomach wall, the lower curvature showing no indentation. Arising from the pyloric canal on the greater curvature was a diverticulum about half an inch in length, and on the upper wall of the duodenum just past the pylorus was a similar diverticulum somewhat less in size. The measurements of the stomach when laid flat on the table were as follows. Length from fundus to pylorus 12 inches, vertically in cardiac portion 5½ inches, at the constriction 3 inches, and in the pyloric portion 4½ inches. On opening the stomach the thumb could be passed through the constriction in the middle of the stomach and the tip of the little finger insinuated through the pylorus. The diverticulum in the stomach admitted the forefinger and a distinct thickened ring of tissue was felt nipping the finger at the base of the duodenum. It was three quarters of an inch in diameter and three quarters of an inch in length. The duodenal diverticulum was half an inch in diameter and half an inch in length, and the same ring, though less marked, was felt at the entrance to the diverticulum. There were no adhesions or any signs of inflammation. The diverticula could be readily inverted and were covered by mucous membrane, which showed no tendency to be thrown into folds The mucous membrane of the stomach in the cardiac portion was slightly injected; in the pyloric portion it was normal. On the posterior wall at the cardiac end of the pyloric half there was one small scar involving the mucous and submucous coats. The mucous membrane in the constricted portion was thrown into numerous longitudinal folds and felt much thicker than in the rest of the stomach. Sections were made through the entrance to the stomach diverticulum, and at the entrance to the diverticulum great thickening of the muscular coats was found, involving both the circular and longitudinal folds but to a somewhat greater extent the circular folds. The thickness of the muscular wall at this part was $\frac{3}{16}$ths of an inch. Just past the muscular thickening the normal stomach mucous membrane was suddenly replaced by a glandular tissue consisting of lobules composed of alveoli lined by polyhedral cells closely resembling those of the pancreas. Between the lobules there was some slight small cell infiltration. Sections were also made through the constricted portion of the stomach which was found to be normal, the muscular coat not being thickened and the apparent increased thickness of the mucous membrane being due to the number of its folds.

Remarks by Dr. FALCONER.—The occurrence of congenital diverticulum of the stomach is of extreme rarity. It differs from the very much more common variety of acquired diverticulum in the fact that it is composed of all the coats of the stomach and not only of the mucosa and submucosa, as most of the acquired or false diverticula are; and, further, the congenital diverticula sometimes contain glandular tissue foreign to the stomach. Weichselbaum[1] records an almost identical case with the present one in which at the bottom of a diverticulum near the pylorus there was a nodule of the size of a hemp seed which showed the structure of the pancreas and on the anterior duodenal wall an accessory pancreas as large as a bean covered by the serous coat. Accessory pancreatic tissue in the stomach wall has also been recorded by Klob, Wager, and Gegenbauer. In the duodenum alone accessory pancreatic tissue is rather more common, cases having been recorded by Weichselbaum and Zenker and Mr. Low of the Aberdeen Anatomical Department also tells me he has seen several such cases (unpublished). The occurrence of hour-glass constriction of the stomach associated with an obvious congenital diverticulum might at first sight suggest the possibility that they were both congenital conditions but I do not think there are the slightest grounds for such a supposition. It showed all the characteristics of the condition for which Professor Cunningham has suggested the term physiological "hour-glass stomach," the main points of which are that the constriction is solely due to a tucking-in of the greater curvature, the lesser curvature showing no abnormality and the presence of marked longitudinal folds of the mucous membrane suggesting that the condition is but temporary. Professor Cunningham[2] concludes that the condition is due to a localised spasmodic contraction of the muscular coat which most commonly arises at the physiological subdivision of the stomach into a cardiac and pyloric portion but which may arise at any part between this and the pylorus.

I am indebted to Mr. Horrocks, senior surgeon to the Bradford Royal Infirmary, for permission to publish this case.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Morbid Histology of the Suprarenal Glands.—A Case of Inoculated Syphilis in the Chimpanzee.—A Rare Variety of Cardiac Degeneration.

A MEETING of this society was held on May 7th, Dr. P. H. PYE-SMITH, the President, being in the chair.

Dr. F. A. BAINBRIDGE and Mr. P. R PARKINSON communicated a paper on the Morbid Anatomy of the Suprarenal Glands. They said that suprarenal glands obtained from 50 consecutive post-mortem cases had been examined by Kohn's method; the depth of the chromaffin stain in the medulla of the glands indicated the amount of adrenalin present. Control observations showed that the amount of chromaffin substance was not appreciably lessened during the interval between death and the post-mortem examination. It was found that the adrenalin had entirely disappeared in cases of death from acute general infections or from post-operative shock, whereas it was still present in normal or almost normal amount in chronic diseases. Several cases were examined which showed arterial disease after death and in which the blood pressure during life had apparently been raised. In these the suprarenals were sometimes slightly enlarged, but no adenomatous growths were observed; the depth of the chromaffin stain was very intense and the amount of adrenalin stored in the medulla appeared to be excessive. The observations suggest that in acute disease, where the blood pressure was low, the suprarenal glands yielded up their store of adrenalin, whereas in conditions associated with high blood pressure adrenalin existed in the suprarenals in normal or increased amounts.

Dr. A. S. GRÜNBAUM read notes and showed specimens of a case of Anthropoid Syphilis. A male chimpanzee, inoculated on the right eyebrow, developed a chancre after 14 days and a secondary rash, principally on the face, after nine weeks. Treponema pallidum was found in both lesions but not after the thirteenth week. The animal died just 11 months after inoculation. Two months before death it had a fit of Jacksonian epilepsy, followed a week later by a second fit. The temporary paralysis of the left side and the loss of speech disappeared after a few hours, but paresis and twitching of the limbs persisted, although diminishing, until death. There was no optic neuritis. Post mortem numerous minute hæmorrhages, confined almost entirely to the right side and chiefly in the cortex, were found in the brain along the vertex from front to back. They were due to the rupture of small, probably preceded by thrombosis of the smallest, vessels. Fibroid degeneration of, and leucocytic infiltration around, vessels could be seen in some parts. There was no meningitis. In the liver were small areas of commencing infiltration and fibrosis. Typical syphilitic fibrosis was present in the testes. There was no affection of the bones, and except for some colitis and old tuberculous glands the other organs were healthy. The serum sent to Breslau was reported from Neisser's laboratory to show the presence of syphilitic antibodies. No treponemata were found in either the cerebro-spinal fluid or the organs.

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[1] Nebenpankreas in der Magenwand, Reichert's Archives, 1860; quoted from Nothnagel.

[2] The Varying Form of the Stomach in Man and the Anthropoid Ape, Transactions of the Royal Society of Edinburgh, vol. xlv., Part 1.

Dr. W. O. MEEK showed microscopical preparations from a Heart the seat of Diffuse Calcareous Degeneration. The calcareous deposit was in the form of fine granules partially soluble in dilute acids. The etiology of the condition was obscure, the intervening areas of cardiac muscle being normal and no vascular changes being found to account for it.

OBSTETRICAL SOCIETY OF LONDON.

Intra-peritoneal Rupture of the Bladder occurring during Labour.—Malignant Vaginal Polypus Secondary to an Adrenal Tumour of the Kidney.

A MEETING of this society was held on May 1st, Dr. H. R. SPENCER, the President, being in the chair.

Mr. C. E. PORTER read a short communication on a case of Intra-peritoneal Rupture of the Bladder occurring during Labour. The patient, a primipara, aged 32 years, who had never complained of previous bladder trouble of any kind, was seen 48 hours before labour had really commenced on account of vague pains which were referred chiefly to the sacral region and which were thought by her to be labour pains. There was then no undue distension of the bladder to be made out by abdominal examination. Urine had been passed that day. Two days later labour pains started in earnest but medical aid was not summoned until 12 hours had elapsed. The nurse in attendance gave a history that labour had been progressing in the ordinary way for about 12 hours when during a pain the patient suddenly cried out that "something had given way inside" and from that moment she became very ill indeed. When seen the patient looked very ill, the pulse was very rapid, the tongue was dry, and the abdomen was much distended and tympanitic. Ordinary labour pains were not to be distinguished from the acute general abdominal pain complained of, though some contractions of the uterus were still to be made out. The child was lying in the first vertex position, the os uteri was fully dilated, and the head was well down in the pelvis. Labour was not apparently obstructed except by the absence of efficient uterine contractions. It was thought that some grave intra-peritoneal catastrophe had complicated labour, and in view of the serious condition of the patient chloroform was at once administered and a full term, well-nourished male child was easily delivered with forceps. After some post-partum hæmorrhage the uterus contracted down well. The umbilical cord was nearly pulseless on delivery and the child died in about an hour. The general abdominal pain ceased to be complained of after delivery. The general condition of the patient had not improved five hours afterwards, the pulse and respiration being still very rapid, and the abdominal distension considerable. 24 hours after delivery the patient had not passed urine, had vomited frequently, and was obviously worse. It was decided to risk her removal to hospital eight miles distant. On admission she was much collapsed. A catheter specimen yielded about four ounces of almost pure blood. The patient was anæsthetised and the abdomen was opened in the middle line below the umbilicus. A considerable quantity of urinous fluid mixed with serum escaped from the general peritoneal cavity. The stomach was enormously distended with gas which was evacuated by a small trocar thrust into the anterior wall of the stomach after extending the abdominal incision upwards. This made examination much easier and a small vertical rent about one and a half inches long was found in the upper and posterior aspect of the bladder to the right of the middle line. This was closed by Lembert sutures and the abdomen sewn up with silkworm gut, the lower angle of the wound being drained with a large rubber tube. The patient was not very markedly worse for the operation but died from shock about six hours later. No necropsy was allowed.

Mr. ALBAN H. G. DORAN read a paper on a case of Malignant Vaginal Polypus secondary to an Adrenal Tumour of the Kidney. A married uniparous woman, aged 40 years, suffered from rigors and sweats in September, 1906. A mass was detected in the vagina and a small tumour in the right iliac fossa. The vaginal growth was a racemose body attached by a well-defined pedicle to the lower part of the anterior wall of the vagina; its lobules, more or less necrosed, were shed from time to time. In November Mr. Doran removed the abdominal tumour, which proved to be a malignant adrenal growth in the upper part of the right kidney. The patient declined to allow a second operation for the extirpation of the vaginal growths. She survived the nephrectomy three months. After death secondary deposits were discovered in the liver and right lung; their presence in the lung had been diagnosed before death. On microscopical examination it was found that the vaginal tumours, as well as the growths in the liver and lung, were of the adrenal type and therefore secondary to the tumour in the kidney.—Dr. BECKETT OVERY described a similar case in which a polypoid mass had been found attached to the anterior vaginal wall. This was removed and a large tumour in the right side of the abdomen was discovered. Two months later the vaginal growth had recurred and it was again removed. The patient died a month later. The post-mortem examination showed that the abdominal tumour was primary and was a malignant adrenal tumour starting in an adrenal rest. There were numerous secondary deposits in the liver and lungs, sections of which showed more or less typical adrenal tissue.—Mr. DORAN replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Differentiation of the Varieties of Extra-systole.—Muscular Lesion occurring in Sprue.—Intubation of the Larynx in Laryngeal Diphtheria.

A MEETING of this society was held on May 1st, Dr. GEORGE HUNTER, a Vice-President, being in the chair.

Dr. W. T. RITCHIE read a paper on the Differentiation of the Varieties of Extra-systole. After reference to the researches of Tawara and of Keith and Flack upon the muscular connexions between the superior vena cava, the auricles, and the ventricles, it was pointed out that an extra systole was the evidence of the heart's response to a heterotopic stimulus. The general characters of the pulse in extra-systolic irregularity were described and it was shown that by an analysis of graphic records demonstrating the sequence in which the auricles and the ventricles contract during an extra systole and the time interval between their contractions on that occasion the initial point of heterotopic stimulation might be deduced. The distinctive features of the varieties of extra-systole were then described. According to the initial point of heterotopic stimulation three main varieties of extra-systole—the auricular, the auriculo-ventricular, and the ventricular—might be recognised. When an auriculo-ventricular extra-systole occurred the auricular beat might be premature as well as the ventricular, and the former might then precede, coincide with, or follow the latter, according to the portion of the auriculo-ventricular bundle first stimulated. It was suggested that the auricular beat preceded the ventricular in the case of supranodal and nodal auriculo-ventricular extra-systoles; when the mid-point, probably the main stem, of the bundle was the initial point of stimulation the auricular and ventricular beats coincided; in other cases of infranodal auriculo-ventricular extra-systoles, when the ventricular beat preceded the auricular, the heterotopic stimulus probably proceeded from the ventricular ramifications of the auriculo-ventricular bundle. In the latter instance the auricular extra-systolic wave might be premature or the auricular rhythm might be unaltered. Cases of continued cardiac irregularity resulting from auriculo-ventricular extra-systoles in series were recorded and in conclusion the three forms of ventricular extra-systole—the retrograde extra-systole, the interpolated extra-systole, and that with a period equal to the succeeding physiological systole, as observed in cases of heart block—were described.

Dr. BYROM BRAMWELL read a communication on a hitherto undescribed Muscular Lesion occurring in Sprue, with a pathological report and microscopical examination by Professor Robert Muir.—Dr. GEORGE HUNTER, Dr. BLACK, and Dr. G. A. GIBSON took part in the discussion.

Dr. CLAUDE B. KER read a paper on Intubation of the Larynx in Laryngeal Diphtheria. He said that while in America, in France, and in most European countries intubation had been enthusiastically adopted as the operation of election in laryngeal diphtheria, it had not had many votaries in Great Britain. Only recently had it met with any serious consideration and even now those who preferred it to tracheotomy were few in number. The theoretical advantages of intubation over tracheotomy were: (1) that the patient continued to breathe *per vias naturales* and consequently there should be less chance of pulmonary sequelæ; and (2) that a cutting operation was avoided and no scar was left. No preparation was required and the patient was as a rule relieved in a few seconds. With tracheotomy, on the other hand, the parts chiefly involved in the obstruction were given complete rest and if the tube became dislodged it could be replaced by the nurse, whereas the intubation tube required a medical man to replace it. There was a great difference of opinion whether membranes were expelled more easily by one tube or the other. Larger pieces should theoretically be expelled through the tracheotomy tube; the intubation tube allowed more vigorous and natural coughing. Dr. Ker thought that the danger of plugging of the tube was exaggerated; if it became plugged it usually was expelled or could be pulled out by the nurse by traction on the string and in such an event a reasonable time usually elapsed before it had to be replaced. The danger of rolling up membrane in front of a tube in the act of intubating and so plugging the trachea was a more real one and had happened on several occasions in Dr. Ker's experience, always, however, without fatal result. Another objection was the possibility of infecting the trachea from the larynx by dislodging small portions of membrane by the tube. This objection, however, had no value since the introduction of antitoxin which prevented the extension of membrane if an adequate dose of serum had been administered. The diphtheritic membrane was so rapidly disintegrated after its employment that there was an unquestionable advantage to Dr. Ker's mind in adopting an operation which would tide the patient through a difficulty lasting only two or three days and which avoided the risks of tracheotomy. Since 1894 intubation had been the operation of election at the Edinburgh City Hospital, supplemented, when necessary, by a secondary tracheotomy. Dr. Ker's experience was limited to little more than 200 cases and until three years ago the mortality of the operation never fell below 40 per cent. It was interesting to note, however, that the death-rate of all laryngeal cases was very much the same as that of hospitals where tracheotomy was in vogue. A great improvement, however, in his results followed the systematic introduction of nasal feeding as a routine in all cases of intubation. Previously rectal feeding, or this along with soft foods by the mouth, was depended on. At present Dr. Ker depended entirely on nasal feeding. About the same time, also, he commenced to use vulcanite instead of the old metal tubes and he found that they were much better tolerated and that their use contributed to the improvement in his results. In hospital practice he was convinced that it was to the advantage of the patient to postpone operation as long as possible. Most of the cases were operated upon in the third stage of croup or when the patient was becoming exhausted and the pulse was beginning to fail. Unless during the second stage the paroxysms were very severe indeed it was better to avoid interference as so many of them recovered without operation. The great considerations were to give the serum time to take effect and to be always within reach of the patient and prepared to interfere at a moment's notice. It was obvious that in private practice early operation was desirable. Of the 70 cases intubated in the hospital since the autumn of 1904, 12 were purely laryngeal, in 48 the fauces were also involved, and in the remaining ten the naso-pharynx was also implicated. 19 patients died, or 27·1 per cent. Slightly more than one quarter of the total cases required a secondary tracheotomy, 18 in all being thus treated. As might be expected, the mortality after tracheotomy was high, only severe cases being thus treated. Of the 18, no less than ten succumbed, or over 55 per cent. In 11 of the cases tracheotomy was performed almost at once, as intubation had not afforded sufficient relief, and six of them died, the obstruction having been beyond reach. In only eight cases was tracheotomy successful after intubation had failed, and Dr. Ker thought that tracheotomy was limited in its use to about one-tenth of the total cases which required interference. Of the nine deaths of patients who were not subjected to tracheotomy, three occurred after the tube had been finally removed—two from heart failure and one from broncho-pneumonia. Five cases died with the tube in the larynx but all with laryngeal difficulty relieved; two of these succumbed to heart failure, one from pneumonia, and one from septic infection. Only one patient died during intubation from heart failure. Some surgeons remove the tube after 24 hours, while others leave it in for six days. In Dr. Ker's opinion the right time varied from 48 to 72 hours. In 12 cases intubation was required twice, in three thrice, in one four times, in one six times, in one seven times, and in one 14 times before the tube could be dispensed with. If the patient could do four hours without the tube it was seldom that it required replacement. If the temperature was normal and the respirations did not exceed 30 per minute before extubation, it was hardly likely that re-tubation would be required. The actual length of time that the tube was worn varied from a moment in four cases, where it was immediately coughed out along with membranes and so complete relief was afforded; seven patients wore the tube for less than two days; 17 were extubated in from 48 to 60 hours; five after three days; five after four days; three after five days; in three it was worn until the seventh to the tenth day; one case 14 days; and another 29 days. The cause of obstruction appeared to be occasionally atrophy of the laryngeal abductors from disuse and consequent adductor spasm. More frequently it depended on a subglottic hypertrophic laryngitis. The operation of intubation required considerable practice and was probably more difficult than tracheotomy. The patient should be in the recumbent position during intubation and the string should be attached to the cheek by a plaster strip, so that in the case of blocking the tube could be immediately removed. The presence of the string necessitated the control of the patient's arms by light splints. The use of steam in moderation was advantageous during the first few days while the tube was worn and while there was a risk of its being clogged with mucus, but when it had been worn for a few days Dr. Ker often put the patients in the open air to improve their general condition. The great difficulty of advising intubation as an operation for private practice was the experience which it required. Few practitioners had a sufficient number of cases of croup to acquire the requisite dexterity. Interference should be employed early as soon as laryngeal symptoms became marked; thus tracheotomy was often performed, and rightly, in cases which a hospital staff would not think of interfering with. Intubation was a much less dangerous procedure in such cases, and in slight cases it allowed time for the antitoxin to act, and the tube could often be removed on the next day. In country practice Dr. Ker would be inclined to intubate every case of laryngeal diphtheria as soon as it had been diagnosed, provided the obstruction were not very marked, in which case he thought that tracheotomy would be the safer method.—Dr. JAMES RITCHIE, Dr. JOHN MACMILLAN, Mr. C. W. CATHCART, and Mr. DAVID WALLACE took part in the discussion, and Dr. KER replied.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on April 10th, Dr. A. Hill Griffith, the President, being in the chair.—Dr. J. Dreschfeld showed some specimens of Hypertrophic Cirrhosis of the Liver.—Dr. W. Milligan and Dr. D. L. Sewell made a short communication upon the Various Routes of Pathogenic Invasion in Cases of Intracranial Sepsis Secondary to Suppurative Middle-ear Disease. Special reference was made to the various sites of osseous erosion in the middle ear, such as the tegmen tympani and tegmen antri. The various intracranial lesions more usually met with were detailed and the practical importance of following up the route of infection was insisted upon. Reference was also made to erosions upon the outer labyrinthine wall and to the grave prognosis when once the labyrinth becomes the site of purulent disease. Vascular and fibrous routes were also dealt with and the rôle played by the petro-squamosal sinus in the production of septic disease at the base of the brain was emphasised. The spread of purulent processes along the perineural sheaths of the auditory and facial nerves was described and illustrative specimens were shown and cases related.—Dr. J. Lorrain Smith gave a demonstration of specimens illustrative of the Pathology of Inflammation and Ulceration of the Intestine. The specimens included: 1. An example of ulcerative colitis. 2. A case of poisoning by corrosive sublimate. In this case the patient had swallowed three tabloids, each containing five grains of corrosive sublimate. The lesions consisted of a local area of inflammation near the cardiac end of the stomach in which a nodular swelling was found with a necrotic surface. The small intestine of this case was less affected than the large intestine. The cæcum and colon showed intense hyperæmia but no ulceration. 3. A number of specimens illustrating the various forms of intestinal inflammation met with in Bright's disease. Reference was made to the experimental work on the elimination of mercurial poisons and the occurrence of inflammation of the mucous membrane of the intestine in cases where the mercurial salt had been administered by an application on the skin surface. These results were compared with the observations on the increase of ammonia in the intestinal contents in cases of uræmia. It was also pointed out that a simultaneous disturbance of the bacterial regulation of the intestine might form an important element in the causation of the inflammatory conditions.—Other specimens were shown as card specimens.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 3rd, Dr. Leonard P. Mark, the President, being in the chair.—A paper was read by Mr. R. Lake on Some Results of Nasal Obstruction. He referred particularly to conditions connected with the special regions of the naso-pharynx, the pharynx, larynx, and ear, and also with the general system, the chest, the general development, and intelligence. He also insisted on the differences existing between the results of structural obstruction of the nose commencing in early life and that arising in later or adult life.—The paper was discussed by the President, Mr. G. A. Garry Simpson, Dr. J. B. Ball, and others.—Mr. George Pernet then read an exhaustive and valuable account of Hæmorrhagic Rashes, dealing with the pathology of these manifestations, the conditions under which they occurred, the differentia in their diagnosis, and with the methods of treatment to be employed. The paper contained many important references to the literature of the subject.—A discussion followed, in which the President, Dr. Phineas S. Abraham, Dr. A. J. Rice Oxley, Dr. Rickard W. Lloyd, and others participated.

Reviews and Notices of Books.

A Text-book of Ophthalmic Operations. By HAROLD GRIMSDALE, M.B. Cantab., F.R.C.S. Eng., Ophthalmic Surgeon and Lecturer on Ophthalmic Surgery, to St. George's Hospital, Surgeon to the Royal Westminster Ophthalmic Hospital; and ELMORE BREWERTON, F.R.C.S. Eng., Ophthalmic Surgeon to the Metropolitan Hospital, Surgeon to the Royal Westminster Ophthalmic Hospital. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1907. Pp. 349. Price 12*s.* net.

THE technique of the individual surgeon is chiefly determined by the instruction which he has received from the masters of the art under whom he has worked. Methods and theories, often dogmatic in form, are handed down in apostolic succession. Only with increasing experience, quickened by such imagination and originality as have been vouchsafed to him, does he extend his somewhat narrow horizon, experimenting with the methods of other schools and devising new modifications on his own initiative. True as this fact is of general surgery, it is even more uniformly true of ophthalmic surgery. So specialised is the subject that the medical student learns little more than the general principles of ophthalmic operations in his pre-graduate days, and such knowledge as he acquires is derived chiefly from elementary text-books. The early period of his career at a special hospital is devoted to out-patient work, and he has few opportunities of learning the details of the technique of major operations upon the eye. It is true that he sees the cases before and after operation and it is possible that he may see the major operations performed, but the field of operation in the case of the eye is so small that he derives little advantage unless he is actually assisting the surgeon.

The student of ophthalmic surgery therefore, more than the student of any other branch of surgery, needs detailed instruction in the minutiæ of the various operations. This is obtained verbally from the teacher and is supplemented in the best schools by practical work upon the dead subject or upon dead pigs' eyes. In such a course both teacher and taught will derive much assistance from a good text-book. Hitherto no good text-book of ophthalmic operative surgery has been available. Beyond the restricted scope of the elementary manual of diseases of the eye the student has had to seek information in scattered treatises and original papers, often difficult to find. Until recently such a work was not attainable even in French or German, though the gap has now been filled by Terrien's "Chirurgie de l'Œil" and by Czermak's monumental treatise. Mr. Grimsdale and Mr. Brewerton have now stepped into the breach for the benefit of English-speaking students.

The scheme which the authors have adopted has been that of describing the principal operations employed for various purposes by different surgeons, so that, as a rule, several alternative operations are given for the same pathological condition. The method has obvious drawbacks, but it has resulted in the production of an extremely useful book. The arrangement of subjects is in accordance with the usual practical course and with the opportunities likely to fall to the lot of the young ophthalmic surgeon in his hospital work. Operations upon the extrinsic muscles and lids are followed by enucleation and its substitutes and operations upon the lacrymal apparatus. Finally, intraocular operations are described—for cataract, after-cataract, and glaucoma—followed by rarer operative procedures upon the cornea, sclerotic, and iris. All the classical operations receive ample attention and many debateable procedures are fully described.

In general we are in thorough agreement with the teaching conveyed but every ophthalmic surgeon of experience has his own ideas and partialities in the performance of individual steps and it would be impossible to please everyone on these minute details. If any criticism is to be offered we think that the authors do not lay sufficient stress upon their own rules of conduct, thus perhaps increasing the value of the book for the accomplished ophthalmologist, while detracting from its value to the beginner, for whom presumably it is written. We can conceive of a work on operative ophthalmic surgery, written by a master of the art from his own individual standpoint and describing in detail the procedures which he himself would adopt in given circumstances. Such a treatise would be invaluable to the beginner—of more practical utility than the work under consideration.

The book is well printed. There are numerous diagrams which are adequate to the purpose but are unnecessarily crude.

Studies in Blood Pressure: Physiological and Clinical. By GEORGE OLIVER, M.D. Lond., F.R.C.P. Lond. London: H. K. Lewis. 1906. Pp. 151. Price 2*s.* 6*d.*

IN this little book Dr. George Oliver describes a new from of hæmomanometer which differs in several respects form the instrument previously employed by him. Dr. Oliver's interest in the subject of hæmomanometry is well-known and in his Croonian lectures delivered before the Royal College of Physicians of London in June, 1896,[1] he gave a full account of the construction and working of various instruments which he had devised for recording variations in the calibre of the radial artery and estimating the colour intensity of the blood. The new hæmomanometer is used in conjunction with armlets or air-bags encircling the part in which the blood pressure is to be determined. Two air-bags are provided, one measuring 12 by 35 centimetres for the arm and forearm, and one measuring 2·5 by 9 centimetres for the phalanges. Air is forced into them by means of a hollow ball provided with valves and squeezed in the hand. The manometer shows pressures up to 300 millimetres of mercury. It is a graduated glass tube connected to the air-bags by stout indiarubber tubing, and in it the air pressure is rendered visible by the compression of a column of air contained between the closed end of the tube and a liquid index. Two other forms of the manometer are also described at pp. 65-67.

Dr. Oliver has not found any appreciable difference between the arterial pressure (systolic and diastolic) taken from the upper arm and that taken from the forearm. In the upper limb the first appreciable fall in the pressure is found at the first phalanx, where the pressure is generally from 5 to 15 millimetres of mercury lower than in the arm. In the ungual part of the finger the fall increases so much that the pressure there is only one-half of what it is in the brachio-radial region, where a diastolic pressure between 95 and 100 and a systolic pressure between 105 and 130 millimetres of mercury are the figures commonly met with. There are, however, some apparently normal persons in whom the readings are habitually higher. A persistent systolic pressure of over 145 or 155 millimetres of mercury recorded within an hour before a meal should be looked upon as somewhat suspicious, and in subjects over 50 or 55 years of age should if possible be reduced by treatment, as it may increase slowly and result in cerebral hæmorrhage or secondary cardiac disease. High readings—e.g., from 160 to 180 millimetres diastolic and 250 systolic—should be accepted at first with some hesitancy, especially when the pulse-rate is raised; and the observer should always remember that when the peripheral resistance is increased the influence of nervous excitement, however slight, becomes much more pronounced than when the distal outflow is normal or subnormal. When the pressure readings are high the observer should look for corroboration in the accentuation of the second aortic sound and in the condition of the ventricle (evidences of hypertrophy, and so on).

The relations of blood pressure to vascular sclerosis have for a long time been a favourite subject of study and hæmomanometry has afforded an explanation of the occurrence of apoplectic seizures and hemiplegias unaccompanied by any apparent thickening of such vessels as the temporal or radial arteries. Generalised sclerosis of the arterioles and of the small arteries cannot be directly recognised during life, but its existence may with a fair degree of certainty be inferred from blood-pressure measurement. Dr. Oliver devotes many pages to the diagnosis and relief of this condition, with shorter references to chronic rheumatic and gouty ailments, chronic interstitial nephritis, various heart diseases, melancholia and mania, insomnia, neurasthenia, cerebral hæmorrhage, and acute febrile diseases.

Practitioners seeking information on this important branch of clinical diagnosis will do well to consult Dr. Oliver's work. Notwithstanding the remark that he has purposely refrained from entering on many by-paths of his subject which presented themselves, we think that some reference should have been made to the effect produced on the blood pressure by the inhalation of chloroform or ether, and by shock or fainting. As a remedy for a sudden and dangerous fall in the blood pressure Dr. George W. Crile, who is mentioned at p. 118 of the book, suggested about five years ago that the patient's body should be inclosed in a kind of indiarubber "combination garment" into which air could be forced.

Injuries of the Eyes of the Employed and the Workm Compensation Act: Problems in Prognosis. By W. BEAUMONT, Surgeon to the Bath Eye Infirmary. Londo H. K. Lewis. 1907. Pp. 160. Price 5s.

WITH the exception of two chapters this book de entirely with the prognosis in cases of various forms injury to the eyes and their immediate surroundings T author in the preface refers the reader to the text books f questions relative to symptomatology and treatment, must be admitted that he will also find there most of t material which is comprised in the book. Special attenti is, however, devoted to the one aspect of the subject and convenient and pleasantly written account is provided. T teaching is sound and trustworthy, though somewh general; more concrete examples from the author's pra tice would have been welcome.

The first chapter deals with the principal Acts of Parli ment referring to the rights of the employed and t giving of evidence. We think the book would have h more practical utility if this portion had been expanded, the expense if necessary of some of the platitudes whic find mention. The remark that a given one-eyed person, "i quite unable to learn to estimate the degree of accommoda tion he is exercising" implies an ability which no on possesses. Such persons acquire the faculty of judgin distance by experience of parallax and minute attention t shadows, and so on. The last chapter deals with malingering. The principal tests for malingering of binocular amaurosis and amblyopia and of uniocular blindness are given briefly.

The subject presented somewhat cursorily in this book i one of great importance and difficulty. The legal luminary is *a priori* antipathetic to the medical witness. Trained in the niceties of deduction from accurate data, he is at a loss amongst the protean possibilities of prognosis. Fighting on his own ground he starts with a handicap which he too often uses to unfair advantage. The advice that "if the medical man does not wish to appear in court he must decline the first suggestion that he should see the patient at all," is seldom applicable, since most such patients are seen in the ordinary routine of hospital work. The medical man can only be compelled to give evidence of fact on a subpœna, except at the express order of the judge. It is unlikely that the latter will demand an expert opinion without satisfactory guarantee that an equitable fee will be forthcoming. This is an aspect of the subject which should have received mention in the book under consideration.

LIBRARY TABLE.

Elements of Physics for Medical Students. By FREDERIC JAMES M. PAGE, B.Sc. Lond., F.I.C. London: Cassell and Co. 1907. Pp. 288. Price 5s.—This little book gives a brief outline of what the author quaintly calls "General Physics" and contains a large amount of information with respect to the special subjects of heat, electricity, sound, and light. A medical student who had really mastered all the principles and details here set forth or indicated could hardly fail to do well at any of his examinations where a knowledge of the four last mentioned branches is required, but the subjects of statics and kinetics are altogether ignored, so that the student must look elsewhere for an account of the so-called mechanical powers, the action of gravity on bodies either falling freely or projected in various directions, the resolution of forces, simple phenomena of rotation, and so on. This is no doubt to be explained by the remark made in the preface that the book has been written with an eye to the syllabus of the examinations of the English Conjoint Board and the Society of Apothecaries. Mr. Page has succeeded in including much matter within a narrow compass, but it must also be acknowledged that he generally appears to assume that his readers either have already some insight into the subjects or else are studying under the guidance of a teacher. For instance, the notice of the dyne and the erg on pp. 5 and 6 hardly makes it clear to a beginner that these units are so small and so ill-adapted for measuring ordinary mechanical effects that the effort of tearing a sheet of notepaper would be equivalent to thousands of ergs. In the explanation of the vernier on pp. 6 and 7, only those having nine divisions of the main scale subdivided into ten parts are mentioned, and there is no reference to the equally useful ones having 11 divisions of the main scale subdivided into ten parts. On pp. 11 and 253 directions are given for determining "the thickness of a plano-convex lens" with a spherometer. This, of course, can be done in that way if required, but the proper use of a spherometer is to measure the curvature of a lens rather than its thickness. Again, on p. 35 one of the causes of variations of atmospheric pressure is said to be "changes in temperature." Meteorologists will appreciate this, but a candidate for examination honours would probably not answer a question of that nature quite so concisely. On p. 51 the description of the experiment with a thread and a soap film appears to us as one that would be incomprehensible to anyone who has not seen the experiment or who has not read Professor Boys's admirable little book on "Soap Bubbles." For students who have made some progress in physics the book will be useful as a summary of leading points and the 230 illustrations which it contains are generally helpful.

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[1] THE LANCET, June 6th, 13th, 20th, and 27th, 1896.

The Public Health Acts and Other Sanitary Laws and Regulations. By MARTIN ELLIOTT, of the Middle Temple and Western Circuit, Barrister-at-Law, and GILBERT ELLIOTT, L.R.C.P., D.P.H. Lond. London: H. K. Lewis. 1906. Pp. 168. Price 5*s.* net.—This book is specially prepared for the use of those who are studying for a diploma in public health. The joint authors hope that by condensing and summarising sanitary law and the principal by-laws of the Local Government Board into one small volume they have supplied a need which has long been felt by many. The law on each topic is quoted verbatim from the statutes, "the merest tautology, being, in a few instances, avoided." Many cross references are given to facilitate the simultaneous perusal of the parts which should be studied together. Nearly 30 pages are devoted to the Public Health Act, 1875, for this is the parent Act from which most legislation has flowed, and therein are crystallised the main features of the law with which a medical officer of health is required to be familiar. The little book is ably edited and the possession of a copy will, we think, save time and trouble to those who are preparing for the public health diplomas.

Rough Notes on Remedies. By W. MURRAY, M.D. Durh., F.R.C.P. Lond. Fifth edition, enlarged. London: H. K. Lewis. 1906. Pp. 212. Price 4*s.* net.—This new edition of a very useful little book is welcome. It will undoubtedly be a great help to many of the younger members of the medical profession. Dr. Murray advocates greater reliance on the more common remedies; though he recognises that they must be used with great common sense and a due appreciation of their effect in each individual case. Arsenic, belladonna, calomel, and nitrate of silver has each its chapter; and Dr. Murray advocates doses of these drugs which will stagger the young practitioner. He deplores that the so-called "scientific medicine" of to-day, which [illegible] the practical elements of everyday work, is ousting some of the old-fashioned and time-honoured remedies. "Our Mistakes" is the title of one chapter in this little book and therein Dr. Murray gives much advice that is good and may be followed with advantage. Another chapter on the Limitations of Treatment is full of sage counsel to the young, and maybe somewhat nervous, practitioner. The uses of alcohol in the treatment of disease are impartially considered in Chapter XI., and some useful hints to medical men when called upon to give evidence in a court of law form another chapter. Dr. Murray thinks that the south coast watering-places are over-rated and pins his faith to the north, with a preference for parts of Northumberland. The book ends with an appendix and a plan explaining the physical features and geological structure of a part of the valley of the Coquet, by R. A. S. Redmayne, F.G.S. This book is full of most useful information and we thoroughly recommend it to all practitioners of medicine. It is well written and easily read. The author claims nothing more for it than that it is the outcome of 30 years' experience of medical practice which has produced in him an increasing faith in medicines, and calls it "the rough and ready work of an old practitioner."

Plaster-of-Paris and How to Use It. By MARTIN W. WARE. New York: Surgery Publishing Co. 1906. Pp. 88. Price $1.—This is a useful little book giving an account of the way to prepare and to apply the various kinds of plaster splints, including a Sayre's jacket. There is also a chapter on the use of plaster in dental modelling. With the exception of the information on the use of plaster in dentistry there is nothing in the book which an ordinarily intelligent dresser ought not to know on the completion of his six months' dressership, but practitioners who have long left the hospital, and who are possibly only called upon to treat surgical affections requiring the use of plaster at considerable intervals, will find the instructions given useful as a means of refreshing their memories as to the necessary technique.

The History of Edward Pellew (First Viscount Exmouth). A Paper read on board H.M.S. *Exmouth*, by Fleet-Surgeon W. E. HOME. Plymouth: The Western Morning News Co.—We have read this pamphlet with interest and recommend anyone who cares for the history of our fleet and its past heroes to obtain it. It is hardly too much to say that if Nelson had not completed the annihilation of his country's enemies Lord Exmouth would have done so no less surely, for if he had not quite the Nelson touch he had in extraordinary measure the Nelson grit, as the victor of Trafalgar himself bore witness when he replied in answer to Pellew's request to serve under him that he was too good to be second in command to anyone and so gave him a squadron of his own. Pellew certainly had the advantage to serve in a time when a man by personal endeavour might carve out a career for himself in the navy in a manner that the conditions of modern warfare can scarcely again afford, but he deserved every tittle of his honours, not only for his victories but for his personal valour, which he showed no less in repeatedly saving lives from drowning (and once by swimming round his own ship to find a leak) than in his personal share in his victories. The bombardment of Algiers and the freeing of its slaves was a fitting crown to his achievements. Fleet-Surgeon Home has done full justice in this paper to a glorious life.

JOURNALS AND MAGAZINES.

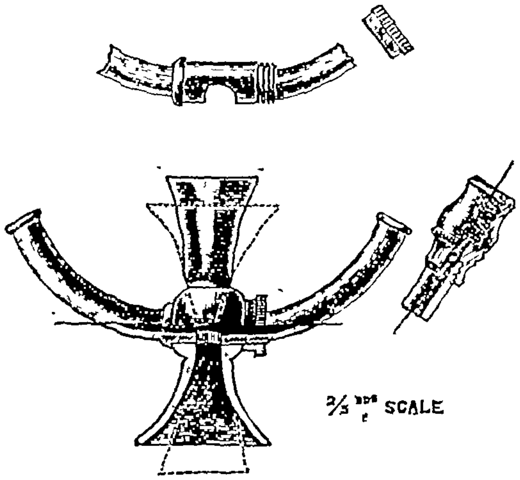
The Phonographic Record. April, 1907. London: Sir I. Pitman and Sons.—The April number of this stenographic journal contains an interesting article on Some Cases of Intestinal Cancer, by Mr. Norman Porritt. In the course of the article he states that the preconception that cancer is necessarily a disease of mature or declining years, like the belief in the *omnipresence of the so-called cancerous* cachexia, is one that cannot safely be held; also that the *theory that a colotomy stays the progress* of rectal carcinoma by diverting the intestinal contents, so that they no longer pass over and irritate the diseased area, is one that seems to him to require qualification. Dr. Edward Walker of Huddersfield relates an anomalous case of cancer of the stomach in a man, aged 39 years, a stone dresser, where the post-mortem examination revealed considerable cirrhosis of the liver and *slight cirrhosis* of the spleen and the stomach was apparently completely filled *by a mass of* encephaloid cancer in the centre of which was a small cavity filled with pus and broken-down cancerous tissue, although the man throughout his illness had no pain, no vomiting, no loss of appetite, and no symptoms of any kind pointing to the stomach as the organ at fault. Dr. A. Hill Joseph writes on Some Points in Urine Analysis and states that in his opinion in the estimation of sugar Gerrard's cupro-cyanide method is the best. The anecdote about "strong feeding for babies," told by a medical man at Ancoats, reveals a tragi-comedy. It is worth repeating. "I was called one day," he said, "to see a sick baby, and found the mother feeding it with little pieces of corned beef. 'My good woman,' I said, 'you must not feed the baby with that sort of stuff.' She replied, 'What am I to feed him with? he doesn't like pork!'"

New Inventions.

AN IMPROVED CHEST-PIECE FOR BINAURAL STETHOSCOPES.

For several months I have been using a newly devised form of chest-piece which I consider an improvement. As will be seen from the illustration, the body is made so that it revolves, the larger end being used for general chest examination, while the smaller is suitable for intercostal and supraclavicular purposes.

The instrument is in three parts—viz., the actual chest-piece, the curved arms to which the tubes are attached, and a metal screw cap which serves either to allow the whole to be taken apart for sterilisation or to make the chest-piece quite rigid. The revolving part is in one piece of metal or ebony, and while in most binaural stethoscopes the ebony part has to be unscrewed for intercostal examination this new and simple device obviates that necessity.



Stethoscopes now in use need not be discarded, for although the illustration is inte

either silk or mohair tubes can easily be fitted by means of the special mount depicted *separately and which is screwed* on to both ends of the arms. The article can be obtained from any dealer in surgeon's instruments.

DAVID ROSS, M.D. Aberd.

KENT'S SANITARY ICE-SAFES AND REFRIGERATORS.

It is somewhat surprising, considering to what purposes they are applied, how little attention has been bestowed upon the design and construction of ice-safes and refrigerators with the view, not only of making them effective for the preservation of food in a sound state, but of insuring during its storage a sanitary environment. A mere ice-box is not *sufficient for the purpose. The insulation* should not only be good but provision should also be made for the passage of clean chilled air through the refrigerator. When attention is carefully paid to the details involved by such requirements the results are highly satisfactory, food is preserved in a *sound, wholesome state, and the* psychical factor of digestion and appetite is not spoiled by the sight of unattractive looking viands. In the patented system of refrigerated ventilation carefully worked out by Mr. George Kent of 199, High Holborn, a continuous pure dry cold current of air passes through the food chamber, carrying off all exhalation and thus preventing the contents tainting one another with their individual odours. Onions, if need be, may thus be kept in company with delicate articles like fish, strawberries, cream, milk, and so forth, *without imparting to these their characteristic odour.* The refrigerators are lined with non-absorbent material, such *as zinc or crystopal,* and the internal fittings are removable for cleansing purposes. Crystopal is described as imperishable, damp-proof, and proof also against fluctuations of temperature and against stains. It is a stout, resistant material with a beautiful white glaze and gives a very attractive appearance to the interior of the cold chamber. The refrigerators are made with an inner and an outer case and between the two there is a thick layer of a special non-conducting material made of cork or hair felting submitted to great pressure. *Altogether these refrigerators* are constructed on sound scientific lines, in addition to which *they are designed to comply* with the conditions demanded by hygienic considerations.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 9th, 1829.

Mr. John Crichton communicates a case of "*leaping ague* of Angusshire," a disease which is, at least by that name, new to us. The subject of this singular affection was a young lady, with a bad stomach, who from this cause, from a *fright* by robbers, and the subsequent loss of a sister, became melancholy and dejected. The suppression of the catamenia, accompanied by coldness of the extremities, ensued; the paroxysm usually commenced, by her collecting her trinkets, and taking them into bed, where she amused herself with *them for some time. She next* rose, and what with running over tables, and mounting doors to swing *backwards* and forwards, she was with difficulty restrained from injuring herself; she then became exhausted, and fell into a deep sleep. Her conversation and writing, which she sometimes adopted to make herself understood, were distinguished by the peculiarity of pronouncing the last letter of a word first, and by commencing her manuscript which she wrote from right to left, by the last word of *the sentence intended to be written.* Opium was tried to check these paroxysms, but produced *stupor; and a shower* bath, which was tried once, produced a lock-jaw for some days. The disease, however, never returned with the same violence after its use, and, by a proper attention to the state of the stomach, and a voyage to the Baltic, she became convalescent, and is now entirely restored to health.*

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* Edinburgh Medical and Surgical Journal.—April, 1829.

THE LANCET.

LONDON: SATURDAY, MAY 11, 1907.

The Oliver-Sharpey Lectures.

"Whilst knowledge is in the making there must be divergencies of opinion and it is only by a full and free discussion of these and by the renewed research of which criticism is the stimulus that any certainty in the way of truth can be arrived at." With these strikingly apposite remarks Professor W. D. Halliburton introduced the subject matter of his Oliver-Sharpey lectures on New Facts in Relation to the Processes of Nervous Degeneration and Regeneration, delivered before the Royal College of Physicians of London on April 29th and 30th, and published in The Lancet of May 4th (p. 1207) and 11th (p. 1273). About many of the details of both of these processes there has been, and still is, much controversy, and the new facts brought forward by Professor Halliburton and his co-workers are, in the main, the outcome of critical experiments specifically devised to put to the test matters in dispute and to establish where the truth lies amid conflicting observations and opinions.

His first lecture was almost exclusively devoted to the chemical aspects of nerve degeneration. After referring to the pioneer work of Thudichum in regard to the chemistry of healthy nerve tissues and to the difficulties in the way of research in this field owing to the many gaps in our knowledge, he proceeded to emphasise the importance of the phosphorised fatty constituents, taking lecithin as a type and one convenient for study, since both its composition and the products of its decomposition are known. Lecithin on hydrolysis yields fatty acids, including oleic acid (to which the well-known osmic acid reaction is due), glycero-phosphoric acid, and choline, a nitrogenous base. These decomposition products are of interest in regard to degeneration, since the Marchi reaction, now so generally utilised in demonstrating degenerated nerve fibres, depends upon the fact that the oleic acid resulting from the decomposition of the lecithin is capable of giving the black colouration with osmic acid even in the presence of chromic salts, while lecithin itself does not. Again, Professor Halliburton and Dr. F. W. Mott have shown in a previous research that in degenerative diseases of the nervous system and in degeneration artificially produced in animals by the cutting of nerves, the products of degeneration, notably choline, can be detected in the circulating fluids, and they suggested that the discovery of choline in the blood and cerebro-spinal fluid affords a definite proof of the breaking down of nervous tissue and further that it might be of service in distinguishing between organic and functional disorders. Their conclusions have been confirmed by other observers, but the methods which they proposed for the detection of choline have been criticised. These tests were two in number: first, a chemical test—viz., the preparation of crystals of the double chloride of choline and platinum; and secondly, a physiological test, which consisted in observing the effect of injection into the blood stream, this being a temporary fall of arterial blood pressure which, if the animal has been previously poisoned with atropine, does not occur or is replaced by a rise. It is, however, the chemical test which has been chiefly criticised. It was pointed out by Allen and French that in the preparation of the crystals potassium salts were not entirely eliminated and that these formed a double chloride of platinum and potassium of similar crystalline form to that of choline platino-chloride. These observers, using an iodine test for choline which is not subject to this source of error, confirmed the occurrence of that substance in the blood of patients suffering from acute degeneration of nervous structures. Dr. Otto Rosenheim, working in Professor Halliburton's laboratory, has re-investigated the matter and elaborated three tests for choline, one of which Professor Halliburton regards as simple, easily applied, and absolutely decisive. The method of applying it is to add a strong solution of iodine in potassium iodide to a preparation of the crystals of choline platino-chloride, which then disappear and are replaced by dark brown plates and prisms not unlike hæmin crystals. They consist of a periodide of choline and are very unstable, being rapidly converted into brown oily droplets if the slide is allowed to stand so that the liquid evaporates, while if more iodine solution is added they once more form and again disappear. Donath in Germany has brought forward another means of distinguishing the crystals of choline platino-chloride from those of the potassium salt by showing that the former are doubly refractive while the *latter are not*. Further research by Dr. Rosenheim has brought to light the occurrence of other organic substances in the blood and cerebro-spinal fluid in cases of breaking down of nervous tissues and has also shown that to obtain the iodine test for choline it is not necessary to prepare the platino-chloride, since it can be applied directly to the alcoholic extract of the cerebro-spinal fluid. In regard to the physiological test for choline further investigation has demonstrated that other substances exist in extracts of nervous tissues which exert a depressing action on blood pressure, but that this action is not abolished by atropinisation. An interesting fact observed by Dr. Reid Hunt in America is that an artificial derivative of choline—viz., acetyl-choline—is much more active, being capable of overcoming the effect of adrenalin.

The second lecture is devoted to a histological and experimental examination of certain aspects of the regeneration of nerves. It is a remarkable fact that whereas the original account of the histological changes in degeneration of nerves given by the elder Waller more than 50 years ago has never been assailed, and, indeed, has been but little, if at all, added to, on the other hand, his descriptions of the processes of nerve regeneration have been repeatedly disputed. It is, moreover, a great tribute to the accuracy of his observation that in spite of this his view that the axis cylinder is a branch of a nerve cell, and that in regeneration the restoration of the axis cylinder takes place from the central end of the divided nerve, is now the view held by the majority of observers. The opposing view, that "autogenetic regeneration," or regeneration in the distal end without central outgrowths, occurs was originally brought forward by VULPIAN and PHILLIPEAUX. Many years later VULPIAN, on repeating his experiments, found that his results were to be explained by means of fibres growing into the peripheral stump from other nerves in the neighbourhood, and he therefore recanted his former opinions and adopted the Wallerian explanation. Recently PURVES STEWART and BALLANCE in this country, and BETHE in Germany, have revived the autogenetic theory, the former as the result of histological observations, and the latter on histological and experimental grounds. These views have been strenuously controverted by LANGLEY and ANDERSON, by LUGARO, by RAMON Y CAJAL, by MARINESCO, and by Professor HALLIBURTON, Dr. F. W. MOTT, and Mr. A. EDMUNDS, while in a recent paper even BETHE himself admits that in adult animals no regeneration of medullated fibres occurs autogenetically. Professor HALLIBURTON and his co-workers have arrived at conclusions similar to those reached 15 years ago by HOWELL and HUBER and in consonance with the original views of WALLER—viz., that "although the peripheral structures are active in preparing the scaffolding the axis cylinder which is the essential portion of a nerve fibre has an exclusively central origin." The experiments described by Professor HALLIBURTON, which comprise both histological and experimental methods, were ingeniously conceived and admirably adapted to set at rest the matters in dispute. They find that the neurilemmal cells show changes both in regard to degeneration and *regeneration*; at an early stage of the former process their nuclei multiply; later together with phagocytes they take part in the removal of the myelin droplets; subsequently they become, in association with regeneration, elongated and connected end to end, an appearance which has given rise to the supposition that they form the new nerve fibres. To test this a long stretch of sciatic nerve was removed and every precaution was taken to prevent union of the peripheral end with central fibres; it was then found that chains of neurilemmal cells, without any indication of either axis cylinder or medullary sheath, were all that could be observed in the peripheral stump, which was, moreover, inexcitable to strong faradic stimulation. The next group of experiments was carried out upon transplanted nerves and when precautions were taken to prevent the ingrowth into them of fibres from the central ends of nerves cut through in the operation similar results were obtained. At the suggestion of Professor F. GOTCH experiments were made on the degeneration of regenerated nerves which were found to degenerate towards the periphery after a second section below the site of the original lesion, a result much more in agreement with the view that regeneration occurs from the centre towards the periphery than with the autogenetic theory. This view was likewise supported by observations on the process of medullation of regenerating nerves, which is found to be more advanced near the place where the nerve was originally cut than at more distal situations—a very significant piece of evidence. The result as a whole has been to establish the Wallerian view of the process of regeneration and to clear up some obscure points in regard to this important practical question. Professor HALLIBURTON's two lectures constitute a valuable addition to the science of applied physiology and are worthy of careful study not only by physiologists but also by those engaged in the actual practice of medicine and surgery.

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Experimental Anæsthesia.

THE problem of anæsthesia is one of the most interesting that can engage the attention of physiologists or clinicians and we are glad to indicate briefly to our readers some of the points recently investigated by Dr. G. A. BUCKMASTER and Mr. J. A. GARDNER and described by them in several papers read before the Royal Society. We mean by "the problem of anæsthesia" the question of what exactly happens to an anæsthetic vapour after it reaches the lungs, in what form it exists in the blood, how it is held there, how given up to the tissue cells, and in what way it exerts upon them its peculiar and possibly selective action. These questions are difficult factors in the problem, but they hold in their answers our power to perfect in the future the practical art of administration of anæsthetics until danger is even further banished than at present, and until the subsequent discomforts to the subjects which are now the more general reproach of anæsthesia cease altogether. Numerous observations and experiments have been made, both in this country and abroad, with the view of determining the proportion of the inhaled chloroform which is retained by the patient, the amount of chloroform present in the blood of an animal fully anæsthetised and of one killed by chloroform, and the manner in which chloroform is associated with shed blood when this is exposed to chloroform vapour outside the body It is with regard to the last matter especially that the experiments of Dr. BUCKMASTER and Mr. GARDNER are valuable, as their work was directed particularly towards throwing light upon the rate of assumption of chloroform by circulating blood, the actual vehicle in blood which is concerned in the transport of this drug, and the relative danger of the various degrees of anæsthesia.

In the first place the observers made a number of experiments to determine the anæsthetic and the lethal quantities of chloroform in the blood of animals; and in the second place, they attempted to ascertain how chloroform is distributed between the corpuscles and the plasma of the blood. The latter experiments go over ground that is new or has only recently been trodden. The conclusion arrived at as to the distribution of chloroform in the blood is, broadly speaking, that the main bulk of the drug is held by the red corpuscles and very little indeed by the plasma. In the case of cats this is so unless narcosis is of an extreme degree or very rapidly induced. In connexion with this fact—for a fact we may now reasonably take it to be—we may remark upon the statement of the authors that the oxygen-carrying power of the hæmoglobin is in no way interfered with, an opinion which is opposed to that previously expressed by other observers. But it is interesting to notice that Dr. BUCKMASTER and Mr. GARDNER found no evidence of the decomposition of chloroform within the blood. This is contrary to the finding of DESGREZ and NICLOUX who held that as much as 6·9 cubic centimetres of carbon monoxide, the result of chloroform decomposition, may appear in 1000 grammes of blood during profound chloroform narcosis. Certainly, the experiments of the more recent observers seem to prove that none of the hæmoglobin of a chloroformed animal is in the state of CO-hæmoglobin. Yet the colour of the blood itself is a good guide to the degree of anæsthesia in a chloroformed animal. It appears that in the case of dogs chloroform enters the plasma rather more readily than is the case with cats. The latter were chosen for the present investigation because their behaviour towards anæsthetics is more comparable with that of the human subject. Whatever be the exact character of the association between the chloroform in an anæsthetised animal and the corpuscles of the animal's blood one fact about it is certain—namely, the firmness of the association. There is no smell of chloroform to be detected in samples of such blood, and if samples are allowed to stand for a night they suffer no diminution in chlorine, showing presumably no diminution in the chloroform which the blood holds. Another feature of the relation of chloroform to the blood of an animal which is killed by the anæsthetic is its bearing upon medico-legal inquiries. This is the great diminution of chloroform in the blood that is observed shortly before death. The explanation preferred for this phenomenon is that an abnormal quantity is at this time to be found in the tissues themselves, particularly the tissues of the nervous system. In animals which are anæsthetised but not killed by chloroform the amount of the drug which enters the central nervous system may equal, but never exceeds, and is generally much less than, the amount in the blood.

From the clinical point of view we may notice in these physiological observations one or two points which are in harmony with our preconceived notions. There are necessarily differences between the conditions which obtain in the physiological laboratory and the operating theatre, and a recognition of this fact explains apparent discrepancies between physiological experiments and clinical observation. In the one case almost absolute control can be obtained over the environing circumstances of the administration of the anæsthetic; in the other this is impossible—at least, in many cases. That the conclusions arrived at by experiment are wholly true when applied to clinical ends there can be no doubt; and they further lead the clinician to modify his methods in such ways as will enable him to produce results parallel with those obtained in the laboratory. It is from this point of view that the work of such investigators as Dr. BUCKMASTER and Mr. GARDNER stands out as of conspicuous value to the practitioner of medicine. To take an example. In the ordinary methods of inhalation as conducted in the clinical theatre there is a much greater chance of mechanical obstruction to breathing than when the chloroform is aspirated directly through a tracheal tube, as in the case of the physiological experiment. Again, the so-called "idiosyncrasy" which has been assumed to exist in certain persons with regard to anæsthetics becomes intelligible if the physiologist's conclusion is correct that there is no absolute relation between the proportion of chloroform in the blood and the effects of the drug upon the entire organism, for these are determined not by the amount of chloroform present in the circulation but by the quantity which enters the tissues of the central nervous system. Obviously, therefore, to any two individuals A and B the same amount of the drug might be offered for inhalation, the same amount might be inhaled, the same amount might be present in the blood, and yet the central nervous system of A might have enough chloroform to produce anæsthesia, while that of B might be only affected to the degree of arousing some slight excitement. Another highly important conclusion which tallies with clinical experience is the statement that the amount of chloroform in the blood which produces anæsthesia varies with the rate of induction of anæsthesia. This is to say, that roughly speaking the more gradually the patient is anæsthetised with chloroform the less of the drug will he have to inhale from first to last. This fact is one of the chief arguments in support of those chloroform-regulating forms of apparatus by which it is possible to give extremely low percentages of chloroform vapour and to control the percentage inhaled throughout the whole course of the narcosis. Yet it is important that the administrator should bear in mind the conclusions which show with what minute quantities of chloroform anæsthesia may be maintained, and for this reason we have drawn attention to the point. The methods described in these researches for the estimation of chloroform in the blood are novel and practically free from error. They would appear to be capable of giving more trustworthy results than those employed previously by SCHMIEDEBERG and POHL and to supply figures more accurate than those recently obtained by French observers. Dr. BUCKMASTER and Mr. GARDNER refer to experiments to be described in the future bearing upon the production of anæsthesia under varying conditions, and we hope to revert later to their valuable and suggestive investigations.

Medical Men and Workmen's Compensation.

SOME six months ago Mr. ALBERT BENTHALL, who has given much attention to the medical questions connected with the various forms of insurance, called attention in our columns to the pronounced manner in which the Workmen's Compensation Act, 1906, would affect medical practitioners. As all our readers know, the Act at present in force, a piece of legislation dating from but nine years ago, contains a number of conditions which have proved fruitful sources of litigation. The "workman" to be assisted by the moribund Act is limited by definition and the circumstances in which he can claim compensation are detailed and particular, but by the Act which will come into force on July 1st next all these conditions and limitations will be swept away. Under Clause 13 of this Act the "workman" is defined in the following words:—

"'Workman' does not include any person employed otherwise than by way of manual labour whose remuneration exceeds £250 a year, or a person whose employment is of a casual nature and who is employed otherwise than for the purposes of the employer's trade or business, or a member of a police force, or an outworker, or a member of the employer's family dwelling in his house, but, save as aforesaid, means any person who has entered into or works under a contract of service or apprenticeship with an employer, whether by way of manual labour, clerical work, or otherwise, and whether the contract is expressed or implied, is oral or in writing."

From this definition of "workman" it will be seen that medical men are especially concerned in the working of the new Act, for many medical practitioners necessarily employ in addition to general domestic servants an assistant or dispenser, a locum-tenent, a coachman or chauffeur or both, and may also have to employ a surgery boy and other dependents whose occupation may or may not come under the head of casual work. In the event of a fatal accident happening to any of these "workmen" in the course of their duties the employers will be liable, if the employees have any dependents, to pay to these dependents perhaps as much as £300 in compensation, the legal liability being for a sum equal to three years' wages, or £150, whichever of these sums is larger, providing that the payment does not exceed £300. But the death of an employee is not so much to be feared as his or her disablement from accident, for here a weekly payment during the continuance of the disablement will have to be paid, which might conceivably mean an annuity by the side of which any lump sum payable in case of death might be a comparatively small amount. From these circumstances, all of which have been brought prominently before our readers in our editorial columns during the past six months, it will be seen that a very large number of medical men will have to insure against their new risks unless they are willing to take the chance of being heavily mulcted by fortune.

As an outcome of this feeling a Medical Insurance Committee was formed early this year to consider whether it would not be possible to devise a scheme for combination in insurance whereby medical men, who must in the future become the payers of increased annual sums in premiums, could benefit from some coöperative scheme ensuring to them a substantial rebate. The Medical Insurance Committee as originally constituted consisted of representatives of the *British Medical Journal*, THE LANCET, Dr. H. Radcliffe Crocker (who accepted the invitation to become chairman), Dr. J. A. Macdonald, Mr. George Eastes, Mr. Albert Benthall, Dr. T. H. Arnold Chaplin, Mr. J. Smith Whitaker, and Mr. Guy Elliston, secretary of the British Medical Association, and after considerable deliberation, in which the exact position of the Association towards the scheme was arrived at, it was settled that the committee should arrange to conduct an agency for insurance against accident and other risks on behalf of medical men, the usual agency commission being used for defraying clerical labour and for benevolent purposes for the benefit of the insurers. The committee sat frequently and received particulars of agency commission and rates of premium from a number of insurance companies and is now in the position to recommend the proposals made to it by the Guardian Assurance Company, Limited, against risks arising under the Workmen's Compensation Acts, as well as in respect to fire, burglary, and accident to the insurer. An advertisement giving full particulars with regard to the arrangements of the Medical Insurance Committee with the Guardian Insurance Company, as well as the rates of premium and form of proposal to be addressed to the committee, will be found on page 19 of our advertisements this week. On the lower part of the form being detached and forwarded to the Medical Insurance Committee, care of the British Medical Association, 6, Catherine-street, Strand, London, it will receive prompt attention, while any further information that may be required will be supplied by the committee. Our advice is that, in cases where there seems doubt whether an employee comes within the scope of the Act, the small premium to cover insurance should be paid willingly, at any rate until legal proceedings under the Act have led to certainty as to the interpretation of its provisions. It will be open to any employee who can find a solicitor to assist him to bring an action against his employer for compensation under the Act. Although the employer may win the case he will have to meet his legal expenses unless he is insured. Insurance carries such expenses.

The scheme is simple in its nature and should be comprehensible, we think, without any trouble. The Medical Insurance Committee has established an agency for insurance against risks arising under the new Workmen's Compensation Act, the scheme also taking cognisance of all risks of the employer for compensation to his employees at common law, as well as the risks of fire, burglary, and accident to the insurer. The agency will allow a discount of 10 per cent. to the insurer upon his premiums save in the case of fire, and here the rebate is not offered by the Guardian Insurance Company; but we understand that the principal insurance offices are unanimous in deciding that no discount for premiums can be allowed to an insurer in respect of fire, a solidity of opinion that is probably dictated by the relations of the various offices to their regular agents. In proportion to the extent to which this scheme meets with the general support of the medical profession there will be left, after allowing the discount and paying expenses, a large or a small annual sum in the hands of the Medical Insurance Committee to be disposed of for the benefit of the insured. The scheme provides that this sum shall be devoted to benevolent purposes, and it will presumably be expended for the benefit of any persons insuring through the Medical Insurance Committee who are incapacitated from work by age or disease or who are in poverty. Those widows or orphans of the insured whose pecuniary resources are particularly slender will probably receive the earliest attention of the committee.

Annotations.

"Ne quid nimis."

THE CONTROL OF MALARIA IN INDIA BY THE ITALIAN METHOD OF LAND IRRIGATION AND SILT-BUILDING.

An interesting paper on the "Applicability to India of the Italian Method of Utilising Silt" was read before the Indian section of the Society of Arts on May 2nd by Sir Edward Buck, K.C.S.I., who has already made a report on the subject to the Governor-General of India in Council. Since the twelfth century the Italian agriculturists have been accustomed to carry on engineering works for the control of their natural water-supplies as well as for agricultural purposes, and these Professor Nicoli of Pisa (quoted by Sir Edward Buck) has summarised as follows: (1)

irrigation, or the supply of water to crops; (2) fertilisation of land by irrigation and (3) by submersion; (4) protection against frost by submersion; (5) *bonificazione* in the plains; and (6) *bonificazione* in the hills. Sir Edward Buck finds it impossible to translate *bonificazione* into one English word and thus expands its meaning, "The fertilisation and sanitation of low-lying unhealthy lands in the plains by deposit of silt combined with drainage; and in the hills the utilisation of silt and the prevention of erosion"; and his communication to the Society of Arts might have been called the Gospel of Silt with the text, "That wherever fertilising silt is available it is a grave economical error not to profit by it." Most instructive figures and details were given in support of this proposition, the average increase in the value of land on which mountain waters have been allowed to settle and deposit their silt being 20 per cent. at a low estimate. The value of a system of damming watersheds to obtain collections of alluvial deposit was fully recognised by the great engineer, architect, and painter Leonardo da Vinci, who in his treatise on the "Movement and Measurement of Waters" heads his fifty-third chapter, "How with the running waters we ought to carry the earth of the mountains into the valleys, so as to render them fertile, and to purify the air;" and that his counsels have been followed by his countrymen Sir Edward Buck testified in these words: "And for the last five centuries the intelligence of the Italian engineers has been directed to forcing each stream to turn the swamps which it had itself caused into fertile plains, and to build up with its own silt rich terraces in the very ravines which it had torn from the hillsides." It will be seen that Leonardo da Vinci's heading indicates something more than a merely financial advantage to be derived from these measures, and for centuries it has been recognised that silting and draining operations invariably coincided with improved health in the local communities; in fact, although until quite recently no adequate reason could be given, they were known certainly to abate the incidence of malaria in the districts where they were employed. Sir Edward Buck points out that the work of *bonificazione* is very much on all fours with the proceedings which modern medical discovery would recommend as necessary for the extermination of malaria by the destruction of the breeding-places of the mosquito; and in his opinion there is not only no reason why malaria should not be entirely stamped out of Italy, if the Government of that country continues to work on the present splendid scale for the agricultural benefit of the country, but there is reason to hope that similar methods adopted in India would succeed from both economical and hygienic standpoints. That they may succeed locally is already proved by the increased value of estates which have adopted methods allied to *bonificazione*, but the question of carrying them out throughout India at the Government expense is one that must needs be thoroughly considered by competent engineering, agricultural, and sanitary experts. In this connexion Sir Edward Buck pleads for the training of a number of "agricultural engineers" who could apply their whole energies to the practical solution of the problem in different localities and the preparation of special survey maps with the same object. Sir Edward Buck's report to the Governor-General of India in Council as to how far the methods of *bonificazione* might be adopted with advantage in India gives a very careful analysis of the scheme and the importance of such a movement can hardly be over-estimated if it be economically feasible. Not only would the abolition of malaria render the lives of both Europeans and natives in India—where "a touch of fever" is about as common as is "a cold" with us—infinitely more comfortable, but it would proportionately enhance the working value of that complex administrative machinery on which the welfare of the country depends. It is gratifying to hear from Sir Edward Buck that his report was in great part due to Lord Minto's personal interest in the matter.

THE "VACCINATION ACT, 1907."

ON April 30th Mr. John Burns introduced into the House of Commons a Bill to substitute a statutory declaration for the certificate required under Section 2 of the Vaccination Act, 1898, of conscientious objection. The Bill is very short and its principle is contained in Section 1 of Clause 1, which runs as follows:—

> 1. No parent or other person shall be liable to any penalty under Section 29 or Section 31 of the Vaccination Act, 1867, if within four months from the birth of the child he makes a statutory declaration that he conscientiously believes that vaccination would be prejudicial to the health of the child and within seven days thereafter delivers the declaration to the vaccination officer of the district.

If Mr. Burns fancies that by this Bill he will soften the manners of Mr. Lupton and his fellow antivaccinationists and not allow them to be ferocious we fear he will meet with disappointment. Dr. W. R. Hadwen has already written to a morning contemporary stating that the Bill can only be accepted by antivaccinationists as an instalment. Vaccination, of course, in the eyes of a certain class of mind is responsible for nearly all the evils in the world, and a study of antivaccination literature makes the reader think that those who write it look upon Jenner's discovery in the same manner as our forefathers did upon Napoleon in the early days of the nineteenth century. The question "Who fills the butchers' shops with large blue flies?" is ever on their lips, the answer being "vaccination!"

AN OUTBREAK OF FOOD POISONING.

WE have received a copy of a report prepared by Mr. William Berry, medical officer of health of the county borough of Wigan, on an outbreak of poisoning due to potted tongues sold for food at the Market Hall, Wigan, on Jan. 11th and 12th. So far as could be determined, 188 cases in 60 different houses came under the observation of medical practitioners in Wigan, Adlington, Ince, Platt Bridge, Skelmersdale, and Standish, but it is probable that there were in addition mild cases to which no medical aid was summoned. The first cases reported to the health department were due to some of the tongue bought on Jan. 12th and eaten that same night, the first symptoms appearing early on the morning of the 14th, 36 hours afterwards. The symptoms were severe and lasted for three or four days, recovery occurring in all of them. On investigation it was found that all the cases could be referred to the one source and, further, that every person who had partaken of this particular food was attacked with symptoms of food poisoning of greater or less severity. The butcher's stall and shop were at once visited, a thorough inspection was made, and the remains of the unsold tongue, then becoming putrid, were taken possession of. Investigation showed that the particular tongues (pigs' and beef) were placed in brine on Thursday and Saturday (Jan. 3rd and 5th). They remained in it for three or four days, were taken out on Tuesday (Jan. 8th), boiled on Wednesday, and taken to the market on Thursday to be ready for sale on Friday, Jan. 11th. Two tins of beef tongue, each weighing about 20 pounds, and one tin of pig's tongue, weighing about 12 pounds, were made and exposed for sale. The examination of the usual methods of procedure showed that in addition briskets of beef are prepared in a similar manner by this butcher. The beef and the beef tongues are bought at Birkenhead, but the pigs which come from Ireland are slaughtered on the premises of the butcher. There are five brine tubs, kept in a cellar under the fish market, where are stored also hams and sides of bacon for salting. One of these barrels is used for brisket of beef for preparing "pressed pickled beef," two are used for pigs' heads, and one small one for pigs' and beef tongues. The brine is prepared by taking two buckets of salt, six buckets of water, three-quarters of a pound of saltpetre, and half a handful of sugar. The cooking is carried out in pans at the slaughter-house and examination of these showed them to be clean. After boiling the tongues are taken out, placed in tin and mug receptacles, pressed slightly, and then allowed to cool. After cooling they are again pressed and hot jelly, prepared from pigs' heads, is poured on. To discover the origin of the contamination of the tongues sold on this occasion Mr. Berry took samples of salt and freshly made brine, some freshly salted pigs' and beef tongue, and one pig's and one beef tongue after salting and cooking, together with the remainder of the tongues causing the symptoms of poisoning, and submitted them for examination to Dr. W. B. Warrington at the Pathological Department of the University of Liverpool. The salt, saltpetre, and specially cooked tongues were found to be free from bacillus coli communis or bacillus enteritidis (Gaertner). In the salted uncooked tongues bacillus coli communis was isolated from the pig's tongue and a somewhat similar but not identical organism from the beef tongue, while in the tongue to which the outbreak was due both bacillus coli, or an organism similar to it, and bacillus enteritidis of Gaertner were found. Mr. Berry therefore concludes that the cause of the mischief has been the brine in which the tongues were placed before cooking, but unfortunately the brine used on this occasion was thrown away and could not therefore be examined bacteriologically. He recommends that in all cases where salting has to be done fresh brine should be used for each batch and no additions should be made to it after the tongues or other meat have been put in. This seems certainly a reasonable precaution but in addition means should be taken to prevent the salting of contaminated material, since doubtless if the brine were the cause of the infection of the particular tongues it must have itself become infected from some other source, probably infected meat. The long incubation in these cases before symptoms supervened demonstrates that this outbreak was probably due to the bacillus enteritidis and its toxins rather than to ptomaine poisoning in the strict sense of the word, and since the toxins of bacillus enteritidis and some of the other organisms responsible for food poisoning are not destroyed by boiling even for half an hour, the only effective prophylaxis against outbreaks such as the present must be a more careful examination of the origin of meat offered for human consumption.

THE PHYSICIAN'S HOLIDAY.

"IT is your genuine worker," writes an Italian contributor, "who really enjoys a holiday; nay, more, who can make that holiday an occasion of enriching other fields of knowledge or culture outside his own. The science, the literature, the fine art of previous generations teem with instances of such employment of well-earned leisure—instances, moreover, in which the medical man appears to exceptional advantage: Italy, in the day now passing, supplies us with one of these in the indefatigable professor of physiology at Turin, Dr. Angelo Mosso, who is employing a temporary leave of absence from the laboratory and the lecture-room in prehistoric research in Sicily, where, in the province of Girgenti, he has found a 'pleasant pastime' in unearthing a neolithic village. Cannatello, the village in question, has yielded to his well-inspired 'spade work' quite a fund of treasure-trove, besides disclosing a 'piazza circolare' which he describes as an 'absolute novelty' in the neolithic architecture of Southern Italy—the said 'piazza' being well paved and presenting five cabins built with great blocks of stone. Other cabins in the villages are, he says, wonderfully conserved, and demonstrate the tectonic ability of their neolithic builders, while the pavement of the intersecting streets contains fragments of straw recalling the 'technique' of similar work in Troy. 'Tables of libation' he also found, showing intercourse with Crete, confirmed by other finds in votive offerings, and 'astragali.' A tomb excavated by him at Sant' Angelo Múxaro contained 45 vases quite entire and without a flaw, and these he has made over to the museum at Palermo. Although this tomb may be assigned to the last centuries preceding the Hellenic invasion the vases found in it indicate by their decoration a yet remoter epoch, their ribbons and cords resembling those of the 'epoca neopatica' of Central Europe. To the 'vasi di steatite' Professor Mosso attaches special importance as substantiating the prehistoric relations of Crete with Sicily. Other details hardly less striking are given in the special report which he has just sent to the Minister of Public Instruction, to whose department all excavation work in Italy belongs, and the elaborate monograph in which the results of his 'archæological holiday' will ere long be embodied is, I need hardly say, awaited with interest wherever prehistoric research is held in honour. Professor Mosso's latest utilisation of 'well-earned leisure' has often had its counterpart in the British Isles and would have greatly impressed such men as Dr. James Cowles Prichard of Bristol and Sir J. Y. Simpson of Edinburgh, whose 'recreation' from professional work lay in similar research. It was in exploring and illustrating for his contemporaries the old site of Pompeii and Herculaneum that Dr. Hughes Bennett, himself like Dr. Mosso a professor of physiology, found congenial distraction, and in the "sixties" of the last century Dr. King Chambers enriched THE LANCET with his impressions, antiquarian and other, of the Italian kingdom, afterwards published in a volume still highly esteemed. Germany, too, can point to the salutary results of the 'physician's holiday' in the incomparable guide to Italy of Dr. Gsell-Fels—a work which the English historian Freeman assured me was of the greatest service to him in preparing his monumental book on Sicily, a work, moreover, which the late Camden professor of ancient history at Oxford, as I can testify, used to excellent purpose in preparing his lectures and which he often quoted to me as an example of how history and archæology could be made to profit by an accomplished 'physician on his holiday.'"

THE COAGULATION OF BLOOD AND THE EFFECTS OF CERTAIN DRUGS AND TOXINS UPON IT.

IN an article with the above heading, published in the April number of the *Bio-chemical Journal* (vol. ii., No. 4, 1907), Dr. C. J. Coleman gives the results of his recent investigations. The influence of fluids containing solutions of salts or drugs injected subcutaneously upon the rapidity with which coagulation of the blood takes place is more difficult to determine than might at first sight appear. In the first place the time is not the same in different individuals. It is not the same even in the same person at different times of the day, the longest coagulation time occurring about one hour after the principal meals, which is probably attributable to the changes in the blood effected by absorption of the products of digestion, whilst on the contrary the shortest time is recorded when the subject is fasting before breakfast. Then, again, the influence of exercise and of temperature must be taken into consideration, 15 or 20 minutes of severe physical exertion or a slight rise in temperature appearing to effect a certain amount of shortening of the coagulation time. Lastly, it was found that the method employed or the instruments used for the abstraction of the blood were of importance in the determination of the time. The method employed by Dr. Coleman was to shave and to cleanse the ear of rabbits and to obtain a specimen of blood by pricking the marginal vein. Then the animal being kept fasting to set aside as far as possible the disturbing influence of food a definite quantity of blood was withdrawn, and the time tested either by Brodie and Russell's coagulometer or by Wright's instrument described in our pages,[1] some advantages attaching to each. In experimenting on the influence of drugs or other agents on the coagulation time, therefore, it is important that the same conditions should be preserved as far as practicable. The drugs, it may be remarked, were injected subcutaneously with a hypodermic syringe. The effects of milk were first examined both in suckling and adult animals and it was found in opposition to the observations of Wright and Paramore to have very little, if any, effect in either accelerating or retarding coagulation. In other experiments on rabbits Dr. Coleman found that the administration of citric acid lengthens the time of coagulation by forming sodium citrate. The hypodermic injection of calcium chloride shortens the time of coagulation. Solutions of normal saline injected subcutaneously have a pronounced effect in diminishing the time of coagulability of the blood. The injection of β-naphthylamine lengthens it, due in all probability to the accompanying pyrexia, since the effect is not obtained if the pyretic phenomena are absent, as is occasionally observed. The subcutaneous injection of diphtheria toxins augments the time of coagulation. Finally, it was found that when leucocytosis occurs either as the result of some pathological condition or of the hypodermic injection of a drug there is a lengthening of the time of coagulation of the blood.

IS CHICORY INJURIOUS?

THE above may seem a startling question to ask, for chicory has been abundantly mixed with coffee for a great many years and we cannot recall a single instance in proceedings taken under the Sale of Food and Drugs Act in which it was urged that chicory was injurious. When a mixture of coffee and chicory is sold as coffee an offence is, of course, committed in accordance with the terms of Section 6 of the Act, which requires that no person shall sell to the prejudice of the purchaser any article of food which is not of the nature, substance, and quality demanded by the purchaser. On the other hand, if it can be shown that chicory is injurious to health it is clear that the proceedings could be based on Section 3 of the Act which demands that no person shall mix, colour, stain, or powder any article of food with any ingredient or material so as to render the article injurious to health. During the hearing of an action for slander, which was decided in favour of the plaintiff in the High Court last week, one witness stated that the selling of 50 per cent. chicory and coffee mixture was likely to cause a great deal of disease in a poor neighbourhood, and a medical man also stated that from his medical experience in poor districts coffee mixed with chicory often set up irritant poisoning. Mr. Justice Bigham admitted some interest in this statement, since he said he had been in the habit for many years of drinking a mixture of chicory and coffee. The chemistry of chicory does not appear to be as clear as it might be. We are merely told that it contains some volatile oil, a bitter substance, and a large proportion of carmel. It answers the purpose of the substitution-monger admirably in giving intensity of colour to coffee infusion, rendering it fuller flavoured than when coffee is used alone. The introduction of chicory for this purpose did much to diminish the popularity of coffee in this country. The consumption of coffee may have fallen owing possibly to the flavour of chicory being disliked or there may have been a real dietetic reason and some persons may have found that chicory disagreed with them. Against this view, however, is the fact that in some parts of the continent an infusion of chicory is drunk pure and apparently without prejudicial effects. Most dietetic authorities seem to agree that there is no reason for believing that chicory is in any way injurious to health, and after all it is merely the root of a wild endive, kiln-dried, and broken in fragments. Still, many roots contain injurious substances and the subject seems to call for more serious investigation than it has hitherto appeared to receive.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

AT the Fifteenth International Congress of Medicine held in Lisbon in 1906 it was decided that the next meeting of the congress should be in Budapest, the capital of Hungary. It is now announced that the Sixteenth Congress will be opened in Budapest on August 29th, 1909, and that it will continue to Sept. 4th. The work of the meetings will be conducted in 21 sections. Professor Calman Müller is the president and Professor Emil Grósz is the general secretary. The offices of the various committees in charge of the arrangements are at Esterházy-utcza 7, Budapest VIII.

TRAUMATIC ASPHYXIA.

TRAUMATIC asphyxia (asphyxia due to pressure on the chest) is a rare condition which has seldom been studied during life. Our knowledge of it has principally been gained from examination of the bodies of persons pressed to death in struggling crowds. Many of the occasions on which this accident has occurred are historical. At the Champs de Mars in 1837 23 persons were crushed to death in the rush of the mob; in the fire at the Vienna Ring Theatre nearly 1000 persons perished in this way; and in the panic at the Victoria Hall, Sunderland, 200 children were asphyxiated by being crushed in a corridor. In the *Canadian Medical Journal* for April Dr. E. S. Ryerson has reported the following case. A boy, aged five years, was admitted into hospital on May 9th, 1906, for injuries which he had received about an hour previously while riding on the back of a lorry. In some way he was caught between the hind wheel and the spring, stopping the wheel and making it drag along the ground for some feet and thus attracting the driver's attention. He was picked up unconscious, black in the face, and breathing with difficulty. On admission there were marked symptoms of shock; he was cold and shivering and his teeth chattered; his face was pallid and his pulse was weak and rapid. Consciousness was dulled but questions roused him. His eyes were tightly closed as if he suffered from photophobia. On the head, trunk, and limbs were contusions and abrasions. His face and neck presented a deep blue mottled appearance which shaded off and disappeared over the upper chest. The pallor of the face could be seen through the blue discolouration. The dark blue spots were small and circular and separated by bands of normal skin. They were not influenced by pressure. On the face and neck they were so close together that they resembled a diffuse ecchymosis. In the clavicular regions they were separated by larger areas of normal skin and followed the distribution of the vessels. The eyelids were blue and swollen and could be opened only by force. The conjunctivæ projected over the corneæ from hæmorrhagic effusion beneath them. The respirations were regular but shallow. The heart sounds were irregular but moderately strong. On the 10th he was quite conscious but drowsy; the temperature was 99° F., the pulse was 120, and the respirations were 30. The eyes were still kept closed. The pallor had disappeared and the blueness was not so deep. On the 11th he was bright and sitting up in bed. The blue spots had faded considerably; the conjunctivæ were almost black. Some blue spots were found on the soft palate. On the 23rd he was running about the ward. All discolouration had disappeared from the face and neck and the colour of the subconjunctival hæmorrhage was less marked. The question of the cause of the blue discolouration, which has been termed "the ecchymotic mask," is interesting. In this case it could not have been due to cyanosis because it did not disappear on pressure and because there were bands of normal skin between the discoloured areas. Was it due to hæmorrhage? The conjunctival discolouration undoubtedly was and hæmorrhages or ecchymoses undoubtedly may occur in traumatic asphyxia. But the fact that the colour disappeared without the changes occurring which extravasated blood undergoes is opposed to this view. Ollivier suggested that such discolouration is due to stasis of carbonised blood in dilated and temporarily paralysed capillaries. This was verified by Beach and Cobb of Boston, who excised portions of discoloured skin and examined them microscopically.[1] Every section showed normal skin with enormous distension of the small veins and capillaries. As to the mechanism of production, forcible compression of the chest and abdomen appears to cause a reflux of blood through the jugular veins, which are more feebly protected by valves than the veins of the limbs. This leads to distension of the small veins and capillaries.

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[1] THE LANCET, Oct. 14th, 1905, p. 1036.

SHOP ASSISTANTS AND LIVING IN.

A MEETING of shop assistants recently convened in the City by the National Union of Shop Assistants, Warehousemen, and Clerks was largely attended and considerable interest was shown in the proceedings by those present. The immediate object of the meeting was to protest against a statement made at the Drapers' Chamber of Trade to the effect that assertions with regard to what is known as the "living-in" system put forward at a recent conference of shop assistants at Leeds were untrue and exaggerated. A resolution was carried at the meeting in the City referred to—

> That this meeting of shop assistants, warehousemen, and clerks of the City of London protests against the continuation of the living-in system as being detrimental to the moral, physical, and intellectual development of the employees; and further, calls upon the Government to include workers in the distributive trade in the Truck Acts.

It will be seen from this that the total abolition, not the regulation, of "living in" was the end proposed to, and approved of by, the meeting as desirable, the ambitions of the shop assistants being defined by a speaker as including "the right to say where they should lodge, what they should eat, when they should go in, and when they should go out." On the other hand, the present conditions were denounced as leading in some instances to the assistants "sleeping in rabbit-hutches and eating food which even a dock labourer would turn up his nose at." We suggest that the shop assistants and those interested in their welfare should concentrate their attack upon the sanitary defects of a system which has something to be said in its favour as well as against it, and should aim at securing by stringent regulations and their enforcement wholesome sleeping quarters and food together with reasonable liberty for those who now are deprived of them. They would be on safer ground in doing this than in demanding freedom to go in and out at night absolutely uncontrolled for young men and young women seeking to escape from restrictions which, although irksome, may be salutary. These young people are drawn from a very large and mixed class. Some of them go into "business" in preference to "service," and are more able, perhaps, to look after themselves than those of their companions who have been more gently nurtured. The supply of shop assistants is now so large that the employers evidently can impose their own conditions. On the other hand, the advertisements in daily and weekly newspapers are eloquent as to the lack of candidates for domestic service and the crowd of foreigners occupying situations as men servants tells a similar tale. Employers of both classes should find no sympathy on it being proved that they fail to provide adequate food and living accommodation for those dependent upon them, or that they curtail their liberty to such an extent as to injure their health, or even to deprive them of reasonable enjoyment. Employers may, however, be excused if they wish to exercise some supervision and control over the lives of those who work for them beyond the duration of the working day, and none the less so because an economy is effected by providing board and lodging upon a more or less large scale.

THE PREPARATION AND STRENGTH OF GREY OIL.

IN the *Journal de Pharmacie et de Chimie* of March 16th M. Camille Pépin draws attention to the great number of formulæ that are used for the preparation of grey oil for injection. As a result the products differ widely in consistence and in strength. Grey oil should be of such a consistence that it does not yield a deposit of mercury, and it should melt readily on the application of moderate heat when required for injection. M. Pépin recommends the following procedure in preparing grey oil. Hard and liquid paraffins are mixed by melting them together, the proportions being so adjusted that the product, when triturated with the mercury, does not separate on standing. As regards the strength of grey oil considerable variations exist owing partly to the fact that some operators calculate the percentage of mercury by weight and others by volume. As the oil is always injected by means of a graduated syringe it is preferable to adopt as a standard strength a known percentage of mercury by weight in volume. A strength of 0·2 gramme of mercury in one cubic centimetre of the oil is very convenient. With such a preparation and a Pravaz syringe graduated with 20 divisions to one cubic centimetre an accurate dose can be given, as each division represents one centigramme of mercury. The largest dose of mercury which is injected in practice is 0·14 gramme and this dose is contained in less than three-fourths of a cubic centimetre of the oil. It is very necessary that there should be uniformity in the preparation of so potent a remedy as grey oil. It is highly probable that the mishaps which have attended its use have been due, in some cases at least, to a confusion as regards the dose of mercury through the preparation of the oil by weight and its subsequent administration by volume.

THE DISTRIBUTION OF THE TWO SPECIES OF BED BUG.

SOME knowledge of entomology is rapidly becoming a necessity for medical men practising in tropical or subtropical countries on account of the important part played by numerous insects in the causation of chronic and fatal diseases. Malaria, yellow fever, plague, sleeping sickness, and several diarrhœal diseases are typical examples of contagions communicable by insects. In the Milroy lectures on kala-azar in Assam, delivered before the Royal College of Physicians of London in February of the present year, Major Leonard Rogers, I.M.S., professor of pathology in the Medical College, Calcutta, brought forward evidence tending to show that the disease was spread by the bites of bed bugs,[1] and Captain W. S. Patton, I.M.S., of the King Institute, Madras, has published an article on the nomenclature of these insects in the *Indian Medical Gazette* for February, 1907. Captain Patton states that two species of these insects, known, however, under a variety of names, are associated with man. One of these, the commonly accepted name of which is cimex lectularius (L.), is distributed throughout Europe and North America. The other is the Indian bed bug which is distributed throughout India, Burma, Assam, the Malay peninsula, Aden, and the islands of Mauritius and Réunion. This insect was described in 1852 under the name of cimex rotundatus by M. Signoret who observed it in Réunion. In 1861 it was described as cimex macrocephalus by Fieber who observed it in Burma. Captain Patton has examined a very large collection of this species sent to him by medical officers and others from all parts of India, Burma, Assam, Aden, Mauritius, and Réunion. As they all belonged to one and the same species it is evident that cimex rotundatus and cimex macrocephalus are identical, and Captain Patton therefore proposes naming it cimex rotundatus (Sign.). *Cimex lectularius* (L.), the European bed bug, is also found in the North-West Frontier Province of India.

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[1] Annals of Surgery, 1904.

[1] THE LANCET, March 9th, 1907, p. 648.

THE SUPPLY OF PURE MILK TO HOSPITALS.

THE awakening of public interest in the important subject of the milk-supply for children bids fair to rank amongst the foremost achievements of preventive medicine during this first decade of the present century. Not a week passes but the matter is mentioned in some organ of the lay press, and this stirring of the national conscience to a concern for the salvage of its infant life has undoubtedly been caused by the authoritative warning note that is being continuously sounded by the medical profession. We have received from the secretary of the Hospital for Sick Children, Great Ormond-street, the minutes of a conference recently held at that hospital under the presidency of its chairman dealing with this matter: at this conference representatives from the eight London children's hospitals and one general hospital were present. Resolutions were passed, subject to the confirmation of the committees of these various hospitals, embodying the following recommendations:—

1. The milk shall be pure, genuine, and with all its cream as yielded by the cow and absolutely free from any and every kind of adulteration, including preservatives. It shall be of such a quality as will produce at least 3·50 per cent. of butter fat.
2. It shall be supplied from a farm or farms whose name or names and locality are notified to the hospital.
3. It shall be permissible for an authorised representative of the hospital to inspect such farm or farms at any reasonable time.
4. The cows supplying the milk shall be in a good state of health and a veterinary surgeon shall give a certificate to that effect once a quarter.
5. The milk shall be strained and refrigerated at the farm and there canned and sealed.
6. The milk shall be delivered sealed at the hospital.
7. It shall not be "Pasteurised" or treated otherwise than as mentioned in Clause 5 without the written sanction of the hospital authorities.
8. It is advisable that the milk be tested bacteriologically and chemically once a week by the hospital.
9. That the name of the medical officer of health of the district in which a supplying farm is situated be furnished by the contractor and that he be informed of the relations between the farm and the hospitals, and that he and the clerk of the urban or rural district council be supplied by the hospital for their information with a copy of these recommendations.
10. This conference invites the committees of the various hospitals interested to adopt the resolutions passed at this meeting.

This excellent scheme of supply is worthy of all support and we trust the committees of the hospitals concerned will see their way clear to adopt it. There seems no need for its limitation to children's hospitals, for the provision of an undoubtedly pure supply of such an important article of diet as is milk in the treatment of disease must obviously be of paramount importance to every hospital. It is impossible as yet to conceive the whole of an urban community being served in this way with milk of a guaranteed purity, but some of the above recommendations might be acted upon by the purveyors and transporters of milk for the London market in the general interests of the population. We are publishing a short series of articles upon the railway transport of London milk, and in each article our correspondent points out the terrible risks of contamination that ensue upon the invariable habit of sending the milk cans by train unfastened and unsealed.

THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

THE Liverpool School of Tropical Medicine sent out its eighteenth expedition by the Union Castle mail steamer *Kenilworth Castle* on May 4th. The expedition, which consists of Dr. Allan Kinghorn and Mr. R. Eustace Montgomery, will be dispatched to Central Africa to study sleeping sickness. The two members of the expedition were entertained to dinner on May 2nd by Sir Alfred Jones, K.C.M.G. (the chairman of the School of Tropical Medicine). Dr. Kinghorn, in the course of an interesting speech, said that the Liverpool School of Tropical Medicine had taken a leading part in investigating the dread diseases of the tropics. With regard to sleeping sickness he was convinced that it might easily spread into Rhodesia and other parts of our southern territory. The object of the expedition was not only to fight sleeping sickness in British territory but to work out some scheme to prevent its spread. That meant that the destruction of the tsetse fly must be aimed at and they hoped that a new cure would be found in the near future. Mr. Montgomery also spoke, remarking that if sleeping sickness reached India it would be difficult to say what might happen. Dr. J. L. Todd (a member of former expeditions) hoped that the school would pursue its researches and remarked that it had already advised a method of treatment known as the "prophylaxis," which was a remedial measure and of which much was anticipated. The company included Viscount Mountmorres, Sir Edward Russell, the Vice-President of the Liverpool Chamber of Commerce, the chairman of the African Association, Dr. J. W. W. Stephens (Walter Myers lecturer in tropical medicine), Dr. T. R. Glynn, Professor Benjamin Moore, and others.

INTRAPLEURAL INJECTIONS OF FORMALIN IN RECURRENT PLEURAL EFFUSION.

THE repeated return of pleural effusion after aspiration is often a disappointment to the practitioner. In the *Boston Medical and Surgical Journal* of April 18th Dr. L. D. Chapin has reported the following case. A man, aged 29 years, came under observation on Oct. 5th, 1906. He stated that he was never robust and had suffered for five years from "asthma." About five weeks before he began to suffer from shortness of breath and fits of coughing. There were signs of bronchitis and of a left pleural cavity full of fluid. Paracentesis yielded three quarts of turbid serous fluid. The general condition was much improved and the dyspnœa was relieved for several days, but the fluid rapidly accumulated and a week after the paracentesis the same quantity of fluid was again removed. Nine days later the process was repeated. No tubercle bacilli could be found in the sputum or fluid removed and inoculation of guinea-pigs with the latter proved negative. The general condition was unsatisfactory. The attacks of coughing were frequent and exhausting, the appetite failed, and the patient seemed to lose ground daily. The temperature ranged from 99° F. in the morning to 102° in the evening. Three quarts of fluid were removed for the fourth time on Oct. 31st. On Nov. 6th a fifth paracentesis was necessary. Dr. J. B. Murphy of Chicago, to whom the case was mentioned, suggested the intrapleural injection of a 2 per cent. solution of formalin solution in glycerine. On Nov. 14th, after aspiration, one ounce of glycerine, containing ten drops of formalin, was injected through the needle. The fluid reaccumulated as before, but after a few days its height became stationary and then it began to decline. The patient's general condition and appearance improved rapidly and the temperature fell to normal. On Dec. 12th the effusion had all disappeared. Convalescence followed.

EPIDEMIC CEREBRO-SPINAL FEVER.

THE reported cases of epidemic cerebro-spinal fever show little change in the distribution of the disease throughout the country during the last seven or eight days. In London cases have occurred in Bermondsey and Islington, and the recovery of a lad admitted with this disease into the Whitechapel Poor-law infirmary eight weeks ago is announced. Other cases have occurred in Cumberland and Derby. In Scotland during the week ended May 4th there were 30 deaths from this cause registered in Glasgow, 7 in Edinburgh, 4 in Leith, 3 in Dundee, and 1 in Paisley. In Glasgow the weekly report issued on May 3rd showed that there were at that time 133 patients under treatment. Cases have also occurred at Dunfermline, at Cellardyke, at Forfar, and at Airdrie. In Belfast there has now been a total of 365 cases with 254 deaths, and there are at present about 40 patients under treatment. It is stated that the disease has made its appearance in the Victoria military barracks, Belfast.

THE Department of Public Health of Queensland in a bulletin dated March 31st states that for the five days ending Thursday, March 28th, no new cases of plague have been reported. The date of attack of the last case reported was March 17th. The date of the last bulletin was March 23rd. As regards the Mauritius, a telegram from the Governor received at the Colonial Office on May 3rd states that for the week ending May 2nd no cases of plague had been reported. A telegram from the Acting Governor as regards Hong-Kong received at the Colonial Office on May 6th states that for the week ending May 5th there were 4 cases of plague and 4 deaths from the disease.

A SESSIONAL meeting of the Royal Sanitary Institute will be held at the Parkes Museum on Wednesday, May 29th, at 8 P.M., when a discussion will take place on Suggested Amendments of the L.C.C. By-Laws as to Drainage, to be opened by Dr. Louis C. Parkes, medical officer of health of Chelsea, Mr. J. Patten Barber, M.Inst.C.E., borough engineer, Islington, and Mr. Isaac Young, chief sanitary inspector, Battersea. General discussion is invited. The chair will be taken at 8 P.M. by Sir Shirley F. Murphy. Tickets for admission of visitors may be had on application to Mr. E. White Wallis, secretary to the institution.

THE summer session of lectures at the Hospital for Sick Children, Great Ormond-street, W.C., will commence on May 16th. The lectures are delivered on Thursday afternoons at 4 P.M., and the opening lecture will be delivered by Mr. G. E. Waugh on Hip Disease in Children. On May 23rd Mr. J. H. Parsons will lecture on Congenital Squint. The lectures are free to all qualified medical practitioners.

THE Harben Lectures of the Royal Institute of Public Health will be delivered on June 5th, 7th, and 11th, at 5 P.M., by Professor Paul Ehrlich, the subject being Experimental Researches on Specific Therapeutics. The lectures will be delivered in the theatre of the institute, 37, Russell-square, W.C.

Dr. Teizo Iwai, physician to His Imperial Highness Prince Sadanaru Fushimi of Japan, who is now on a visit to this country as the representative of the Emperor of Japan, has been appointed an Honorary Member of the Fourth Clas of the Royal Victorian Order.

THE Wightman lecture of the Society for the Study Disease in Children will be delivered on Friday, May 17th, 5 P.M., at 11, Chandos-street, Cavendish-square, W., Dr. Frederick Taylor; the subject will be Pneumonia Children.

Mr. J. Bland-Sutton, F.R.C.S. Eng., will deliver an addre on the Problem of Cancer at the Institute of Hygiene on Tuesday, May 14th, at 3.30 P.M.

Dr. A. J. Rice Oxley has been appointed physician-in ordinary to Her Royal Highness Princess Henry of Battenberg.

Brigade-Surgeon-Lieutenant-Colonel Charles E. Harrison, Grenadier Guards, has been appointed an Honorary Surgeon to the King.

MEDICINE AND THE LAW.

Quackery and Touting.

AT a recent inquest at Dewsbury it was proved that the deceased had been attended by a medical man during an attack of influenza but that subsequently he suffered from dropsy, and upon the advice of a man who worked under him at the mill where they were employed consulted a person named Hall. After death had occurred Hall was asked by the widow for a certificate of its cause, and the letter in which he replied bore the significant heading, "Dr. Hall's Hygiene Company, 16, Broad street, Pendleton." It contained an expression of the "company's" regret that the patient should have died and a suggestion that the medical practitioner who had previously attended him should be invited to certify. It also stated that the "company" was surprised at the widow's application as her late husband had known of their status and had been aware that they would be unable to give such a certificate as that asked for. The verdict of the jury in accordance with the medical evidence was to the effect that the deceased had "died from dropsy resulting from liver disease and aggravated by improper and ignorant treatment," and after their finding had been made known the coroner censured the widow for not obtaining medical advice for her husband when he became worse and was in a dying state. The case resembled many others in which foolish persons, not always of the least educated class, are deluded into applying to quacks, with the result that their lives are endangered or are sacrificed, but certain circumstances which the coroner sifted as far as he was able were serious enough to merit the attention which he very rightly gave to them. It was stated in the course of the inquest by the widow of the deceased that her late husband had been induced to consult "Dr. Hall's Hygiene Company" by a workman in the same mill and that the payments which he said he had made had consisted of £1 10*s*. to the former and £1 to the latter. The man in question, who was named Parker, was called and admitted that he had recommended Hall and had given the deceased the impression that Hall was a "proper doctor." He denied, however, that he received any commission from Hall. Parker's daughter then gave evidence to the effect that the £1 spoken of was for an appliance obtained from Hall for the deceased. She admitted, however, that she was Hall's agent for a certain district and that she received a commission upon what he obtained from patients introduced by her. She added that she accompanied the deceased to the quack who had then warned him of his danger and had advised him to consult a qualified practitioner. With regard to this, however, it must be added that medicine was produced which Hall had given to the deceased and which was stated to contain opium. The employment of agents paid by commission as described is a practice the dangers of which hardly require comment. The difficulty lies in preventing it in the existing condition of the law with regard to unqualified practice. It is to be hoped, however, that coroners when they have the opportunity will call attention to it and to its results as Mr. Maitland, the coroner for Dewsbury, has done.

An Incomplete Prescription.

An interesting case is reported from Brabant, Belgium, in the *Pharmaceutical Journal* of April 27th. A medical practitioner prescribed 50 grammes of glycerine of carbolic acid without any indication as to its strength. As the practitioner was attending a confinement the druggist to whom the prescription was handed supplied a preparation consisting of equal parts of glycerine and carbolic acid; thinking that the liquid was intended to be used to make carbolic solution by the direction of the practitioner. Unfortunately the liquid was intended for washing the newly-born infant and naturally the result was severe burning, which proved fatal. The court at Nivelles fined the medical man 300 francs for having prescribed a poisonous substance without indicating its strength. The druggist was, in the circumstances, also fined an equal amount. The case was taken to the Court of Appeal at Brussels, and the verdict of the lower court was upheld so far as the druggist was concerned, but the medical man's fine was increased to 600 francs.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Brighton County Borough.—The current annual report relative to this district contains an instructive account of an outbreak made up of cases of scarlet fever and of sore-throat which occurred in Brighton and apparently also in certain neighbouring districts in October, 1906. The cases of sore-throat, which were regarded as "scarlatinal," were considerably in excess of those of scarlet fever. The chief interest attaching to the outbreak was the fact that advantage was able to be taken of a method of keeping the milk registers which some of the dairymen had at the instance of Dr. Arthur Newsholme, the medical officer of health, adopted a year previously. All those familiar with the investigation of outbreaks thought to be milk-borne are but too painfully aware of the enormous difficulty of determining with accuracy the precise source of any given churn or churns of milk, and those who have had no such experience can ascertain the proportions of the problem by a reference to the historical outbreak with which the "Hendon disease" is associated. Fortunately for the partial elucidation of this Brighton outbreak the milk-vendor with whose milk it was associated had kept the records of his milk sources in such a fashion that he could trace at once to the farm the milk supplying any houses or group of houses and hence it became an easy matter to fix suspicion upon a certain farm and in a much more expeditious fashion than is provided for under the Infectious Diseases (Prevention) Act to stop the supply of milk. Had the records referred to not been thus available it would have been necessary to stop the whole of the milk supplied by this dairyman, but the information procurable enabled an arrangement to be arrived at by which in consideration of a sum of about £93 the milk from the suspected farm was withdrawn from consumption for a week. Such withdrawal fortunately coincided with a cessation of the outbreak and everyone, including the milkman, was satisfied. It may, however, be stated that fortunately the evidence associating the outbreak with the milk was very strong, so strong, indeed, that we fully agree that the expenditure involved was justified. The actual source of the infection of the milk could not be determined, but on the evidence suspicion must be held to attach to the cows themselves. One cow had a pustule on its udder, but in the view of the veterinary inspector it did not resemble those present in the Hendon disease. It is, however, regrettable that the pressure of work was so great that no cultures from this lesion could be made, more especially as other cows had apparently abscesses on their udders. A further account of the clinical features of the outbreak would, too, have been of value, as the whole story suggests that a mixed infection may have been in question, and we are interested to note that this point is referred to in a footnote. But the outbreak shows the importance of coöperation between local authorities and milk vendors, and it will be an advance if milk vendors in other places can be induced to keep their register in such a fashion as will enable the source of a suspected milk to be fixed upon at once. Dr. Newsholme furnishes in his report an interesting account of the voluntary notification of pulmonary tuberculosis in Brighton and of the manner in which better results are obtained under this system in Brighton than are secured in Sheffield under the compulsory system.

St. Anne's-on-the-Sea Urban District.—Dr. Frederick Booth, as an outcome of the recent report of the Royal Commission on Tuberculosis, advocates the periodic examination of the cattle in this district by a duly appointed veterinary surgeon and the acquirement of powers similar to those conferred by what are known as the "Liverpool Milk Clauses"—i.e., power to inspect the milch cattle and farms from which milk is imported into the district. There is no doubt that although those clauses can now be somewhat improved upon the powers which they confer are of considerable potential and actual value.

Surbiton Urban District.—The council of this district has shown itself alive to the importance of controlling the spread of tuberculosis from tuberculous cattle, and in 1900 it appointed a veterinary inspector to inspect at three monthly intervals every cow in the district which is kept for trade purposes. The council has also endeavoured to induce neighbouring sanitary authorities to take similar action in order that areas from which milk is introduced into Surbiton may be controlled adequately. Efforts have also been made to bring about coördination and coöperation as regards veterinary inspection in cows in adjoining districts. The last report of the Royal Commission should encourage Dr. M. Owen Coleman, the medical officer of health, to persist in his practices and efforts.

The Borough of Eccles.—Dr. W. M. Hamilton, the medical officer of health of this district, has been appointed by the corporation medical officer to the schools and in this capacity he has already carried out considerable inspectorial work amongst the scholars. Prior to his inspection the head teacher at the school is asked to have classified, according to standards, all children who are in any way defective and after examination of these children by the medical officer the parents are written to by the teachers, who have apparently entered enthusiastically into the work, advising that either a medical practitioner should be consulted or that the child should be taken to some suitable hospital. No actual treatment is undertaken by the examining officer, his duty being to ascertain the nature and extent of all defects. Enlarged tonsils, adenoids, and impaired sight and hearing have been the main defects noted, unless the presence of vermin can also be classed as a defect. Dr. Hamilton states that the fact of the examination has already led to more care and greater cleanliness.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8379 births and 4885 deaths were registered during the week ending May 4th. The annual rate of mortality, which had declined from 17·9 per 1000 to 16·0 in the four preceding weeks, further fell to 15·9 in the week under notice. During the first five weeks of the current quarter the death-rate in these towns averaged 16·7 per 1000, the rate during the same period in London being only 16·2. The lowest rates in the 76 towns last week were 6·4 in Hornsey, 6·8 in Bournemouth, 7·7 in Willesden, and 8·4 in East Ham and in Reading; the rates in the other towns ranged upwards to 24·6 in Middlesbrough, 25·0 in Oldham, 27·3 in Rochdale, and 30·5 in Tynemouth. The 4885 deaths in the 76 towns showed a further decline of 25 from the decreasing numbers in the four preceding weeks, and included 530 which were referred to the principal epidemic diseases, against numbers ranging between 563 and 505 in the four previous weeks; of these, 197 resulted from measles, 176 from whooping-cough, 59 from diphtheria, 46 from diarrhœa, 34 from scarlet fever, and 18 from "fever" (principally enteric), but not one from small-pox. No death from any of these epidemic diseases was registered last week in Halifax, Huddersfield, York, Ipswich, or in four other smaller towns; the annual death-rates from these diseases, however, ranged upwards in the other towns to 3·4 in St. Helens, 3·6 in Middlesbrough, 4·5 in Portsmouth, 5·1 in Salford, and 5·4 in Hanley. The fatal cases of measles in the 76 towns showed a decline from the high numbers in recent weeks; the highest annual rates therefrom were 2·6 in Birkenhead, Bolton, and Middlesbrough, 3·8 in Portsmouth, and 3·9 in Hanley. The deaths from whooping-cough, on the other hand, exceeded the number in any previous week of this year, and caused death-rates equal to 2·1 in Tottenham, 2·2 in Grimsby, 2·3 in Hornsey, and 3·7 in Salford. The deaths referred to diphtheria and diarrhœa also showed some increase, the death-rate from the former disease being equal to 1·2 in Walthamstow and in Rochdale, and to 1·3 in Leyton and in Reading. Scarlet fever caused three deaths in Bootle, equal to a rate of 2·3 per 1000. Two deaths were referred to "fever" in Cardiff. One case of small-pox was under treatment in the Metropolitan Asylums Hospitals at the end of last week; it is the first case of this disease admitted to these hospitals since the end of June last. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2628 and 2649 in the two previous weeks, had further increased to 2871 at the end of the week under notice; 346 new cases were admitted during the week, against 361 and 360 in the two previous weeks. The deaths referred to pneumonia and other diseases of the respiratory organs in London, which had steadily declined from 412 to 295 in the four previous weeks, further declined last week to 282, but exceeded by 24 the corrected average number in the corresponding week of the five years 1902–06. The causes of 50, or 1·0 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, West Ham, Newcastle-on-Tyne, Salford, and in 45 other of the 76 towns; the proportion of uncertified deaths, however, again showed considerable proportional excess in Liverpool, Sunderland, Gateshead, and Rochdale.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·0 and 20·6 per 1000 in the two preceding weeks, declined to 19·9 in the week ending May 4th, and exceeded by 4·0 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·5 and 12·0 in Perth and Aberdeen to 21·5 in Glasgow and 25·6 in Greenock. The 690 deaths in the eight towns showed a decline of 24 from the number in the previous week, and included 106 which were referred to the principal epidemic diseases, against 133 and 121 in the two preceding weeks. These 106 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 1·4 the rate from the principal epidemic diseases in the 76 English towns; they included 46 from "fever," 44 from whooping-cough, six from measles, six from diarrhœa, three from scarlet fever, and one from diphtheria, but not one from small-pox. The 44 deaths referred to "fever" exceeded the numbers in either of the two preceding weeks, and included 31 in Glasgow, seven in Edinburgh, four in Leith, three in Dundee, and one in Paisley; all these 46 deaths from "fever," excepting one of the 31 in Glasgow, were certified as fatal cases of cerebro-spinal meningitis. The 44 deaths from whooping-cough showed a decline of eight from the number in the previous week; they included 36 in Glasgow and three both in Edinburgh and Paisley. Of the six fatal cases of measles four occurred in Glasgow and two in Leith; and the six deaths attributed to diarrhœa included three in Glasgow and two in Greenock. Two deaths from scarlet fever were recorded in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 103 and 109 in the two preceding weeks, further rose to 127 in the week under notice, but were ten below the number in the corresponding week of last year. The causes of 22, or 3·2 per cent., of the deaths registered in the eight towns during the week were not certified or not stated; in the 76 English towns the proportion of uncertified deaths in the week under notice did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 27·1 and 33·5 per 1000 in the two preceding weeks, declined to 26·4 in the week ending May 4th. During the first five weeks of the current quarter the death-rate in the city averaged 28·4 per 1000; the rates during the same period did not exceed 16·2 in London and 18·3 in Edinburgh. The 198 deaths of Dublin residents during the week under notice showed a decline of 53 from the high number in the previous week, and included 14 which were referred to the principal epidemic diseases, against 18 and 29 in the two preceding weeks; of these, ten resulted from whooping-cough, three from measles, and one from diarrhœa, but not one either from small-pox, scarlet fever, diphtheria, or "fever." These 14 deaths were equal to an annual rate of 1·9 per 1000, the rate during the same week from the principal epidemic diseases being 1·6 in London and 1·8 in Edinburgh. The fatal cases of whooping-cough and measles showed a decline of five and seven respectively from the high numbers returned in the previous week. The 198 deaths from all causes included 36 of children under one year of age and 45 of persons aged upwards of 60 years; each of these numbers showed a marked decline. 11 inquest cases and five deaths from violence were registered; and 87, or 43·9 per cent., of the deaths occurred in public institutions. The causes of four, or 2·0 per cent., of the deaths in Dublin were not certified; the percentage of uncertified deaths during the week did not exceed 1·0 in London, while it was 4·3 in Edinburgh. The 169 deaths registered in Belfast during the week under notice included 25 which were referred to cerebro-spinal fever or cerebro-spinal meningitis, showing a decline of two from the number in each of the two preceding weeks.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: A. L. Christie to the *Sappho*; G. G. Borrett to the *Royal Arthur*; and A. M. Page to the *Nile*. Staff-Surgeons: A. H. Jeremy to the *Carnarvon*, on recommissioning; H. B. Hall to the *St. George*; and J. W. Craig to the *Royal Arthur*. Surgeons: W. E. Ormsby to the *Tamar*; and B. R. Bickford to the *Excellent*, for the *Grafton*. Civil Practitioner: M. O'Brien to be Surgeon and Agent at the Isles of Arran, Galway. Staff Surgeon Arthur Reginald Bankart, M.V.O., K.H.P., has been promoted to the rank of Fleet Surgeon in His Majesty's Fleet (dated May 5th, 1907).

GRENADIER GUARDS.

Brigade-Surgeon-Lieutenant-Colonel Charles E. Harrison, Grenadier Guards, to be an Honorary Surgeon to the King, and to be a Brevet Colonel, *vice* Surgeon-General Sir H. J. K. Innes, K.C.B., deceased (dated March 13th, 1907).

ARMY MEDICAL SERVICE.

Lieutenant-Colonel Arthur P. O'Connor, C.B., from the Royal Army Medical Corps, to be Colonel (dated April 5th, 1907).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated April 29th, 1907):—Septimus H. Fairrie, George T. K. Maurice, Francis E. Gunter, and John H. Campbell, D.S.O. The seconding for service with the Egyptian Army of Lieutenant Marcus G. Dill bears date Feb. 14th, 1907.

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among officers of the Indian Medical Service:—Captains to be Majors (dated Jan. 29th, 1907): Charles John Robertson-Milne, Algernon Francis Stevens, Clement Henry Bensley, Francis Hammond Watling, Samuel Evans, Edgar John Morgan, James Haldane McDonald, Frank Wall, Charles Montague Mathew, John Stephenson, Frank Needham Windsor, Walter Barrie Turnbull, Ernest Edwin Waters, Edmund Moritz Illington, and Charles George Webster.

The King has also approved of the retirement of the undermentioned officers:—Surgeon-General Adam Scott Reid, C.B. (dated March 25th, 1907), and Lieutenant-Colonel Montague Stokes Eyre (dated April 7th, 1907).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major George Hollies, to be Surgeon-Lieutenant-Colonel (dated April 16th, 1907).

VOLUNTEER CORPS.

Royal Engineers (Volunteers).—3rd Lancashire: Samuel English to be Surgeon-Lieutenant (dated March 30th, 1907).

Rifle.—4th Volunteer Battalion, The Royal Fusiliers (City of London Regiment): Surgeon-Lieutenant J. K. Brownlees resigns *his commission (dated March 25th, 1907). 1st Dum*bartonshire Volunteer Rifle Corps: Surgeon-Lieutenant A. G. Hay, to be Surgeon-Captain (dated March 1st, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Eastern Command: Woolwich Companies: Captain T. W. Bartlett resigns his commission (dated March 31st, 1907).

MR. HALDANE'S ARMY SCHEME.

The motion of the Prime Minister for confining discussion on the Territorial Army Bill to a limited period recently occupied the attention of the House of Commons and was carried. On a previous occasion in the House of Lords the Earl of Wemyss put a question to the Under Secretary for War having a very important bearing upon the new Army scheme—namely, as to the minimum age of soldiers for foreign service. About this we are probably destined to hear more, for notwithstanding the results of previous experience the temptation is always in the event of any pressure to embark soldiers for service in India whilst they are still too young and immature for the work and climate. This is a matter which calls for serious consideration if we are to avoid the *occurrence* of much unnecessary sickness and inefficiency in that country. Mr. Haldane has, as everyone knows, addressed himself to the question of army reform with great constructive skill and boldness and his scheme, about the success of which much difference of opinion prevails, nevertheless holds the field and is, we imagine, bound to be adopted and tried.

TINNED MEAT RATIONS.

The War Office has sent out the following circular to all the commands in the home stations in giving instructions for the weekly issue of one pound of preserved meat to the army in lieu of fresh-killed meat:—

> The establishments in which the brands of American tinned meat now being issued to the troops are manufactured have been carefully inspected by officers sent specially to America for the purpose, and their reports have satisfied the Army Council that the quality of the tinned meat used, and the conditions under which it is prepared and canned by the firms now supplying the army, are in every way satisfactory.

THE UNITED SERVICE MEDICAL SOCIETY.

A meeting of medical officers in the Navy, Army, Indian Service, and Auxiliary Forces was held at the Royal United Service Institution, Whitehall, S.W., on May 2nd, when a society to be known as the United Service Medical Society was formed for the furtherance of the sciences bearing on the preservation of health among the forces afloat and ashore, at home and abroad, in war and in peace. Inspector-General H. M. Ellis, Director-General of the Medical Department of the Royal Navy, who presided, said that the present was a peculiarly fitting time for the formation of such a society, as the Royal Army Medical Corps had now got a home in London and it was from the Army Medical Department that the inception of the movement had come. Inspector-General Ellis was elected to be president of the society for one year, Fleet Surgeon W. W. Pryn, R.N., and Lieutenant-Colonel C. H. Melville, R.A.M.C., were appointed honorary secretaries, and Lieutenant-Colonel D. Wardrop, R.A.M.C., was appointed honorary treasurer. The affairs of the society will be managed by a council consisting of the president and eight officers elected by the society, representing the different services.

THE ROYAL ARMY TEMPERANCE ASSOCIATION.

A conference in connexion with the Royal Army Temperance Association was held on the morning of May 3rd, at Caxton Hall, Westminster, at which General Lord Methuen presided. The annual meeting was held in the afternoon, under the presidency of Mr. Haldane. Mr. Haldane, before presenting the awards gained by those units in the various branches of the army which contained the highest percentage of abstainers, gave an address in which he remarked that perhaps one reason why the army had not always been as popular as was desirable was that the people had not felt that the personal lives of the men reached the desired level. Recent years had, however, seen a change for the better. The army was better looked after and better paid; the terms of service were better suited to the habits and needs of the people and the men had better chances of employment afterwards. But the difficulty of getting recruits meant that something was wrong. The tradition which kept men back dated from the period when they were secured almost, or even quite, by compulsion, when no one looked after them at all, and when everyone, without exception of rank, drank to excess. Officers, non-commissioned officers, and men realised now the enormous waste of physical, intellectual, and moral force to which drinking led. The key to a larger supply of recruits lay in an improved social condition of the army. Therefore, the work of the social reformer and the minister of religion was just as real as that of the army surgeon and those who prepared the men for fighting. He was glad that the association had decided not to exclude the really moderate drinker.

Correspondence.

"Audi alteram partem."

DOURINE IN CANADA.

To the Editors of THE LANCET.

SIRS,—Pathologists will be interested in the information that the trypanosoma equiperdum has been found in a mare clinically affected with dourine, or *maladie du coït*, at the quarantine station established by the Department of Agriculture at Lethbridge, Alberta, in 1904. The first demonstration was made by Dr. E. A. Watson and Dr. M. V. Gallivan on Feb. 11th, 1907, in material taken from a vesicle on the mucous membrane of the vagina of the animal above referred to, which was found to be affected with dourine on the premises of her owner near Lethbridge, on Dec. 21st, 1906, and was subsequently removed to the quarantine station for purposes of experimental observation. The disease was successfully transmitted in February to a yearling filly and the parasite subsequently observed in preparations from a fresh plaque. The finding was confirmed by Dr. C. H. Higgins, pathologist of the department, on March 21st, and was further observed in preparations taken by him on the 23rd and 25th of the same month.

The identity of dourine, or *maladie du coït*, as seen on this continent and hitherto diagnosed by American and Canadian veterinarians from clinical manifestations alone, with the disease as known in Africa and Asia, as well as in Southern Europe, is thus fully established. A detailed report of the discovery and of the work which led up to it, as well as of the steps subsequently taken, will be issued at the earliest possible date.

I have the honour to be, Sirs, your obedient servant,

J. G. RUTHERFORD,
Veterinary Director General.

Ottawa, April 19th, 1907.

LARGE VESICAL CALCULI.

To the Editors of THE LANCET.

SIRS,—On Feb. 16th, 1907, you kindly published in THE LANCET a short note on a case of large vesical calculus which I had removed. I there stated that it was the largest calculus successfully removed of which I had seen a record. I quoted from "Anomalies and Curiosities of Medicine," Gould and Pyle, published in 1900. I thought the writers would have exhaustively looked up the subject and that if they had not found a record of a larger stone I might safely conclude that no such record existed. Since then I have found out there are larger stones which have been successfully removed and shall be much obliged if you will allow me to make the necessary corrections.

Dr. F. M. Sandwith's letter in THE LANCET of Feb. 23rd recalls Mr. H. M. N. Milton's case reported in THE LANCET of Sept. 16th, 1893, of a stone weighing 34½ ounces removed from an Egyptian fellah by the suprapubic operation in which the peritoneum was opened in order to extract the stone. The patient died two months after the operation. The stone is now in the museum of the Royal College of Surgeons of England. I have also received a letter from Dr. F. C. Madden of Cairo referring to this case and telling me of another successfully removed by Mr. Milton by crushing weighing 20 ounces. Sir *Thomas* Smith kindly wrote to me calling my attention to the case he had successfully operated on, the stone weighing 24½ ounces and recorded in THE LANCET of August 7th, 1886. He also referred to some other large stones unsuccessfully removed

Dr. W. B. Hunter's case, a stone removed from an Indian native weighing 25 ounces; death ensued on the fourth day.[1] Mr. Walter Rivington's case; the stone was said to be larger but weighed less than Sir Thomas Smith's.[2] Mr. J. Rutherford Morison's case; the stone weighed 20½ ounces; death occurred on the fourteenth day. I also received a letter from Sir Constantine Holman telling me of large stones removed at Canterbury and Chichester. I have to thank Mr. T. Whitehead Reid of Canterbury and Dr. D. Ewart of Chichester for giving me information about these stones. The Canterbury stone weighed 10 ounces and the Chichester one 7 ounces 35 grains. Mr. R. Lawford Knaggs told me of Mr. N. C. Davies-Colley's case, for particulars of which I am indebted to Mr. A. Ralph Thompson. The stone was successfully removed by the suprapubic operation on Oct. 30th, 1896, and weighed 16 ounces. In Ashurst's "International Encyclopædia of Surgery" a case is referred to removed by Dunlop of Springfield, Ohio, from a patient, aged 66 years. The stone weighed 20 ounces and the patient lived three years after the operation.

Below is a list of successful cases which I have endeavoured to make as complete as possible:—

1. Milton: 34¼ ounces; death two months after operation.
2. Sir Thomas Smith: 24½ ounces; complete recovery.
3. Dunlop: 20 ounces; patient lived three years.
4. Milton: 20 ounces; removed by lithotrity.
5. Littlewood: 18½ ounces; patient lived ten months.
6. Hatch: 17 ounces.
7. Davies Colley: 16 ounces.
8. Harmen (Norwich): 16 ounces.
9. Mayo (Winchester). 14 ounces 2 drachms.
10. C. R. Pike (St. Vincent): 13½ ounces.
11. Clinè: 13 ounces.
12. Cheselden: 12 ounces.
13. Paré (1570): 9 ounces.

I think I may safely state that Mr. Milton of Cairo has successfully removed the largest recorded stone, the patient living two months; Sir Thomas Smith has removed the largest stone in which the patient completely recovered from the operation; and that the case I have recorded is the second largest stone successfully removed in Great Britain.

I am, Sirs, yours faithfully,
Leeds, May 4th, 1907. H. LITTLEWOOD.

FEES FOR EXPERT EVIDENCE.

To the Editors of THE LANCET.

SIRS,—May I invite the attention of the profession through your columns to the subject of witnesses' fees for expert evidence? Some months back I was *invited* by a solicitor to give "proof" of evidence as to sanity of testator in a will case. I did so but stipulated *in writing* the amount of my fees for such attendance in London to give evidence. This I thought was a sufficient safeguard. I was afterwards subpœnaed and at great cost and trouble to myself had to go up to London twice and give evidence. The case was lost but the costs came out of the estate. The sum tendered me for my attendance leaves me actually out of pocket, as I received the merely *taxed* costs of the action. I have since learned that the plaintiff (of whom I knew nothing, having been engaged entirely by the solicitor) had no means whatever for entering on such an action. I am informed that I have no legal remedy, as I had no undertaking from the solicitor as to my costs. I suppose, therefore, that if the costs had not come out of the estate I should have got *nothing*. I may mention that all the other witnesses on the same side have suffered similarly. I would wish therefore to emphasise to my medical brethren the absolute necessity of obtaining a written guarantee from the solicitor engaging them as to the payment of their costs. I have often given evidence in medico-legal cases but shall never do so again without a due guarantee beforehand.

I am, Sirs, yours faithfully,
C. E. RICHMOND, B.Sc. Vict., F.R.C.S. Eng., &c.
May 6th, 1907.

⁂ Our correspondent rather confounds two things. The fee for *an examination and report* stands on exactly the same footing as any other medical service and the party on whose account the order may have been given is responsible for the payment. If there is any doubt as to the ability of the party to pay it is wise to ask for payment before the examination is made. As to the *charge for attendance in court* and proper travelling expenses payment for these can be claimed by any witness *before* he is sworn and the judge then directs the payment, but if a witness is sworn before making the claim he will have then to rely on the ability of the plaintiff or defendant, as the case may be, to make the payment. The judge has nothing whatever to do with the fee for the examination or in other words the qualifying fee.—ED. L.

PHARYNGO-KERATOSIS TREATED BY APPLICATIONS OF SALICYLIC ACID IN SULPHO-RICINATE OF SODA.

To the Editors of THE LANCET.

SIRS,—So many doubtful but alleged remedies eventually become stereotyped into the students' text books to the chagrin of the practitioner and the patient alike that it would, perhaps, be as well at once to point out that Dr. Dundas Grant's "rigid experimental test" from a scientific standpoint —and I am only concerned with the scientific aspect of the matter—is really of little value. Dr. Grant addresses a letter to your issue of May 4th on the ground of supplying an omission; in that letter he himself makes a very material omission, for he makes no mention of the vigorous local treatment carried out for a month or six weeks immediately before the application of this "rigid experimental test." According to the official report (of which I inclose a copy), when the patient was first seen in March, 1906,

> Various isolated applications were made; in the first instance a saturated solution of salicylic acid in alcohol to the spots on the right tonsil, the galvano-cautery to those on the left one, then pure formalin to the left one, and a 10 per cent. solution of sulpho ricinate of soda to the right. In April she was given a 1 per cent solution of formalin in glycerine and distilled water, which she applied daily for a month, at the end of which time comparatively no change had taken place. In April, 1906, she commenced the daily application of a 10 per cent. solution of salicylic acid in sulpho-ricinate of soda.

With the result so vitiated by previous treatment it seems idle to dignify any subsequent application as a "rigid experimental test" which "showed incontrovertibly that the improvement was due to the application." The one rigid and incontrovertible fact in the case is that the patient was under this treatment for 12 months and at the end of that time was not cured.

I am, Sirs, yours faithfully,
May 7th, 1907. W. JOBSON HORNE.

THE UNIVERSITY OF LONDON AND MEDICAL EDUCATION.

To the Editors of THE LANCET.

SIRS,—It was with considerable regret that I read your leading article on the above subject[1] because, in my opinion, you convey to your many readers scattered throughout the country an erroneous impression of the present constitution of the University and of the aims of a majority of the teachers which constitute its medical faculty. You have written: "There is an indication of a temporary ascendancy of reaction against the movement for the conversion of the old examining board into a real teaching University." The indication, I take it, is the recent election of Dr. J. Calvert and Dr. L. Hill to the Senate of the University. If that is so, then you are wrong in your inference that those who voted for them are "against the conversion of the old examining board into a real university." With the affiliation of the present medical schools in the University six years ago the days of the University as a medical examining board ended and those who voted for Dr. Calvert and Dr. Hill certainly do not wish to see those days back again. What they did vote against, and in my opinion rightly, was the introduction into London of a university of the type of the great German or Scotch universities. The present medical schools constitute the basis for an ideal medical faculty, which could be made better than any the world has ever seen. They are planted where they ought to be—under the walls of great hospitals; their teachers have liberty to work out the best that is in them; the students have individual attention. London is not a city in any sense of the word; and the university that serves Berlin or Edinburgh could not answer for London, which is an urban kingdom and ought to support at least 11 medical schools, the number to be found in Scotland. Those who voted for Dr. Calvert and Dr. Hill have in their minds the development of such a university as, I have so briefly outlined and wish to see these colleges of the University assisted and not crippled. The London medical schools deserve assistance; look at the research work and the teaching that is done in them. In every department of medicine they contribute more than a fair share to the progress of knowledge. With the best will in the world they are ready to compete with other universities and colleges which are supported by bounties in the shape of endowments. They are poor, contending, jealous, and ambitious, all points in their favour. They can command the best of the younger men who wish to become leaders in medicine. These are the aims of the "party of reaction"—aims which in their nature are certainly not reactionary.

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[1] THE LANCET, Jan. 16th, 1888.
[2] THE LANCET, August 14th, 1886 (unsuccessful).

[1] THE LANCET, May 4th, p. 1235.

I am, Sirs, yours faithfully,

ARTHUR KEITH.

London Hospital Medical College, E., May 6th, 1907.

To the Editors of THE LANCET.

SIRS,—In your leading article in THE LANCET of May 4th on the University of London you hardly do justice to the body of graduates who are opposing the present policy of the Senate. For some years past the medical schools of London have experienced a decline in their annual entries. The undoubted cause of this decline has been the attractive influence of provincial universities. Although in actual practice every medical man is "doctor," yet the ordinary honest man feels compunction when using a title to which he has no claim. It is here that the many small universities exercise their greatest force in diverting the stream of students from London. But London stands pre-eminent in the enormous mass of clinical material, after all the greatest factor in our training, which it offers. It also possesses a University with a high standard for pass degrees. What it lacks, however, is an organised method of teaching. The slipshod methods of 50 years ago are inadequate to the requirements of the twentieth century. Whether reform will be best obtained by concentration is a matter for the teaching bodies who alone are best capable of judging. At the same time one must not lose sight of the fact that large sums of money are sunk in buildings expressly adapted to the requirements of elementary medical education. The fear that loss of capital will follow concentration must have weight in the minds of those affected.

Now we, the ordinary practising graduates of the University, find, or think we find, ourselves threatened by another danger. We say that the various alterations in the examinations of the University all tend to the more easy attainment of its degrees. We say that London can attain the position that it deserves by making its teaching adequate to its degrees, not by making its degrees fit its teaching. In my own case my father deliberately chose that his son should enter the University of London in preference to either of the old universities in the belief that the London degrees marked the high water mark of medical attainments.

The members of the Graduates' Association share the same belief, and it is in the enjoyment of this belief that they are pursuing the course that you, Sirs, term reactionary. The liberal progressive policy of the Senate to us appears only as a breach of faith.—I am, Sirs, yours faithfully,

Manchester, May 4th, 1907. M.D. LOND.

A NEW HOSPITAL FOR INFANTS.—On May 2nd the Duchess of Albany laid the foundation-stone of a new hospital for infants at Vincent-square, Westminster, S.W. As explained to the company present by Lord Cheylesmore, chairman of the hospital committee, the hospital was founded four years ago by Mrs. Robert Mond in Denning-road, Hampstead, where accommodation was provided for 20 infants. This lady had not survived to see the remarkable success which had attended the work of this hospital in which during four years only more than 500 infants had been treated. Her husband, Mr. Robert Mond, however, had offered to erect the new hospital as a memorial to his wife at a cost of £30,000. Mr. J. S. Fletcher, M.P., in proposing a vote of thanks to the Duchess of Albany for her interest in the institution, dwelt upon the great prospects of future utility before the new hospital.

SOME TURKISH LAZARETS

AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

(*With Reproductions of Photographs taken by the Author.*)

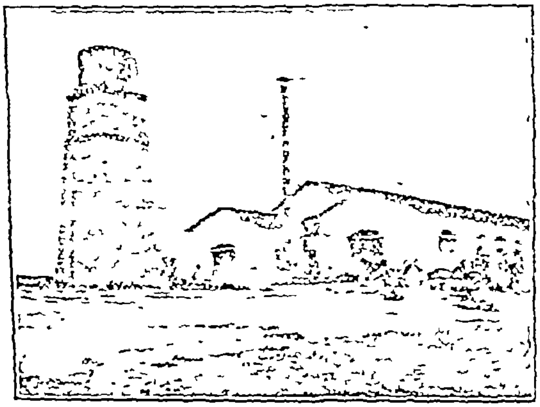
III.[1]

THE CAMARAN LAZARET (*continued*).

The Three Disinfecting Pavilions.—Modifications Proposed.—The "Douche Baths."—Moveable Disinfecting Stove.—The Mode of Housing the Pilgrims.—The Two Types of "Arish," Old and New.—Their Advantages and Disadvantages.—Stone Houses Recommended.—The "Specimen-house."—The "Houses of Distinction."—Tents.

THERE are three large disinfecting pavilions at Camaran. All are situated near the sea and, roughly speaking, the first is between the first and second camps or cordons, the second between the third and fourth, and the third between the fifth and sixth. Under the plan proposed by the Commission the third pavilion will be transferred to a spot near the land end of the third landing stage, where it will serve for pilgrims going to the fifth and sixth cordons (in their new position). All three blocks are built on the same plan, but it is only at the first that the annexe for douche-baths has been built. The materials, however, exist for the construction of a similar annexe at each of the other two. They are large buildings, as may be seen in Fig. 5; they are solidly built of the madreporic stone of the neighbourhood, covered (for the most part) with lime plaster. A large verandah, in matting, has been run up along one side of the first pavilion; but the material for a "pucca" verandah to all three has been bought and is in stock at the lazaret only waiting to be put up.

FIG. 5.



Third disinfecting pavilion and water tower.

The internal arrangement of the first pavilion is shown in Plan I. The Commission's report contains two plans, one of the pavilion as it is and one as it will be when its proposals are carried out; it is the second of these that is reproduced on a small scale here. The pilgrims and baggage enter a large hall, some 20 metres long and seven metres wide, the floor of which is of brick and the roof of galvanised iron. This room has hitherto served for the sorting of the baggage, for the chemical disinfection of such objects as require it, for the undressing of the male pilgrims, and for their medical examination. As the Commission points out, it is impossible that each of these four operations can be properly carried out in one and the same room. There are, as a matter of fact, under the present arrangement, much disorder and confusion, the room being soon filled with chattering pilgrims and baggage of every kind; the sorting of the latter is not very perfectly done, chemical disinfection is most indifferently performed, and a proper medical examination is almost impossible. It has been decided, therefore, to partition off the south end of the hall, which will be reserved for chemical disinfection; three large cement troughs will be constructed there, in which different chemical solutions can be prepared on a large scale. At the other end of the hall a space some 5 by 5½ metres will be partitioned off to make the men's undressing-room, and where the corridor leaves this to lead to the baths a small inclosure will be made for the medical visit. In this way every pilgrim must pass singly by the medical man before he can leave the undressing-room, and being already undressed the medical examination can be made both much more rapidly and much more thoroughly. The remainder of the large entrance hall will be used for the sorting of the baggage. That which can pass through the disinfecting stoves will be taken to them and the rest will pass to the room for chemical disinfection.

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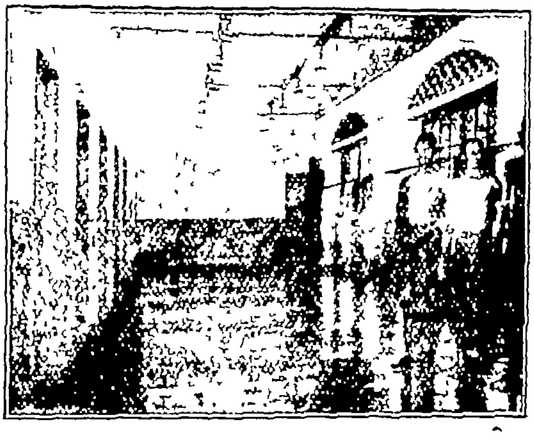
[1] Nos. I. and II. were published in THE LANCET of April 27th (p. 1155) and May 4th (p. 1251), 1907, respectively.

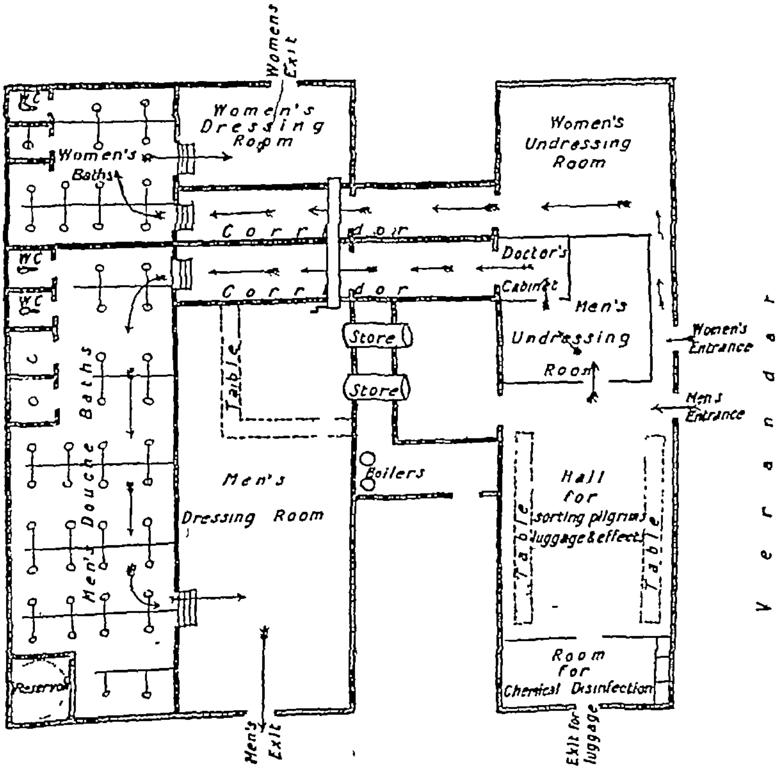
There are two disinfecting stoves in each pavilion, or six in all. Of the six three are from the firm of Geneste, Herscher, and Co. and three from that of Dehaitre. In each block there are two boilers, each of which can be used indifferently for either of the two stoves. The stoves pass through a partition wall which entirely cuts off the "infected" from the "clean" half of the building. The pilgrims' clothes and other objects not injured by steam are placed in the stoves at the "infected" end and removed at the "clean" end by other employees. The "clean" end is in the men's dressing-room. The women's clothes are transferred from this room across the two corridors to the women's dressing-room by means of a circular belt worked by a handle.

FIG. 6.



Men's douche baths in the first disinfectin station.

PLAN .



Ground plan of a disinfecting pavilion at the Camaran lazaret, with modifications proposed by the Commission. Scale 1 to 350.

The course followed by the men and women respectively is shown in Plan I. by means of arrows. It will suffice here to follow the men; having undressed, they receive a cloth, like that used in Turkish baths, and, having undergone the medical examination, they pass along a corridor to the "salle des bains-douches." This is a long hall with floors and walls of cement and the "roses" for the douches of warm sea-water in the ceiling (Fig. 6). Along one side of the hall is a series of cubicles, four of which are latrines (to be reduced to two), and the six others contain single douches for the better class pilgrims. Attendants arrange the pilgrims in rows under the douches; a signal is given and the water is turned on for a short time. The pilgrims are then well soaped all over and scrub themselves thoroughly or are scrubbed by the attendants; at another signal the water is turned on again to remove the soap and the pilgrims then pass into the dressing-room. This is another large hall 17½ metres long by 7 wide. Here they receive their disinfected clothes, dress, and pass out into the open by the door of exit.

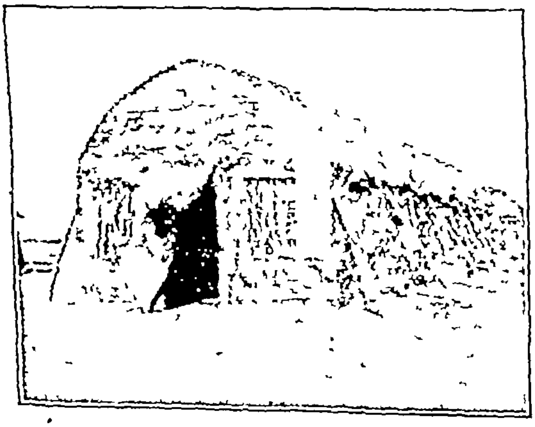
For these arrangements as a whole I have nothing but praise. Several modifications of detail are proposed by the Commission, but with the exception of those mentioned above—the division of the large entrance hall into separate rooms for the four separate operations now imperfectly conducted in the single hall—these modifications do not touch any point of capital importance The completed disinfecting blocks at Camaran compare, indeed, favourably with those in any other lazaret I know.

Mention must here be made of a moveable disinfecting stove on wheels possessed by the lazaret. It was bought in 1898 from Geneste, Herscher, and Co. At present it stands unutilised in a shed. The Commission proposes to place it definitely in a small disinfecting pavilion to be built between the hospitals for ordinary and infectious diseases, which will be dealt with in a later article.

The pilgrims, having completed their bath and disinfection, enter the camps, or "cordons," in which they pass the rest of their quarantine. There are six of these cordons; their position and relative sizes are seen in Plan II.,[1] which shows the lazaret in its present condition. The second plan shows it as it will be after the proposals of the Commission have been carried out. It will be easier to understand what these proposals are and the reasons for them by describing first the kind of house occupied by the pilgrims; secondly, the cordon, which is made up of a group of such houses; and, thirdly, the arrangement of the cordons and their relation to other portions of the lazaret.

At present the bulk of the pilgrims are lodged in large houses or huts with matting walls and palm-thatched roofs. Such a house is known as an "*arish.*" There has been considerable controversy as to the suitability of these houses for lodging pilgrims. There are two types of arish, the "old type" and the "new type." Both are built of a skeleton of wooden beams, rods, and canes, on which are nailed, inside and outside, squares of native matting (made of palm leaves), and, as stated, the roof is thatched with a thick layer of palm leaves. The new type differs from the old in having a thatched verandah on either side and in some other minor details; it is also better constructed than the old model. The Commission went very carefully into the question of cost and found that though a new model arish costs about £T.30 and an old model only about £T.15, the difference is compensated by the greater comfort which the former offers to the pilgrims, by its more presentable appearance, and by the fact that it lasts nearly twice as long. The external appearance of each of the two models is shown in Figs. 7 and 8.

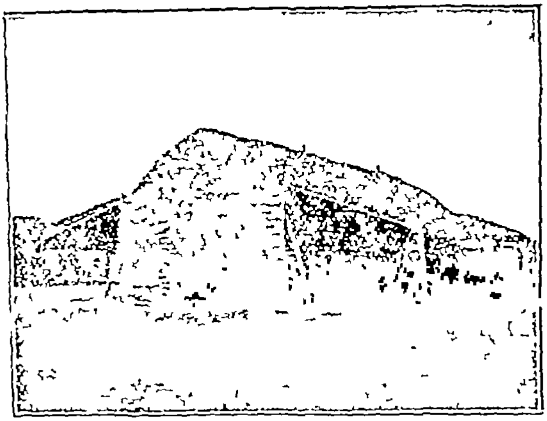
FIG. 7.



An "arish," old model.

The floor of these houses is simply the desert sand of the island. Their length is 19 or 20 metres, their width about 5 30 metres, and their height in the middle from 4½ to 5 metres. In a tropical climate, such as that of Camaran, a house of this kind offers several advantages: it is cheap; it can be easily burnt and rebuilt at little cost in case of an epidemic; it offers sufficient protection against the sun; and it is thoroughly ventilated, the entire walls being of porous matting. On the other hand, it is difficult to disinfect; the walls harbour dust and dirt; spiders and rats infest the space between the inner and outer layers of matting; and when rain falls it is difficult to prevent the interior from becoming damp. In the case of two of the six cordons (the first and third) which lie almost at sea-level the houses are actually inundated after heavy rains. Rain is not very common at Camaran, but three or four times each winter there is likely to be a fall of some duration and severity, and on these occasions the pilgrims in the first and third camps are liable to suffer much discomfort. The "new model" arish offers much better protection against rain than the old, because of the verandah on either side and of its better construction. The Commission therefore recommends that in future all arishes shall be built of the new type. It also makes other special recommendations for the first and third camps in order to protect the houses there from inundation during rain.

FIG. 8.

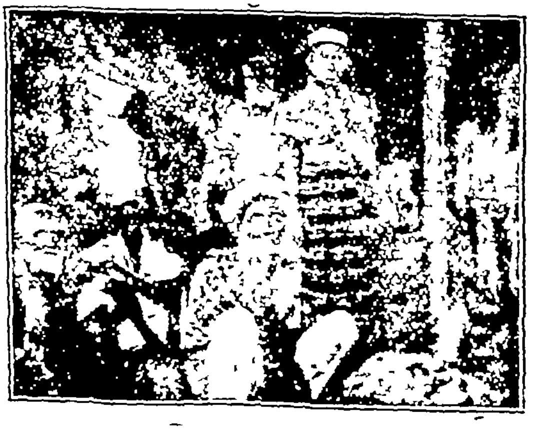


An "arish," new mode

There can be no doubt that stone houses, such as exist at Abu-Saad or at the Egyptian lazaret of Tor, are greatly preferable to these mat houses, but the expense of their construction is very great. It is reckoned that to furnish all the pilgrims at Camaran with stone houses would involve a total outlay of some £T.50,000 or £T.60,000. The Commission nevertheless recommends to the Turkish Government the desirability of building such houses and spreading the expense over a series of years; but it must be confessed that there is little likelihood of this recommendation being carried out.

In Fig. 9 the interior of a mat house is seen with pilgrims already lodged in it. On entering such a house the first impression is one of disorder and chaos, but it is soon seen that there is a certain order in the disorder; the pilgrims hang cloths or carpets to make small enclosures, in which are placed the women and children. They spread rugs or matting on the floor and are soon quite as comfortable as in their own homes. It had been suggested to have a sort of

FIG 9



Pilgrims in arish.

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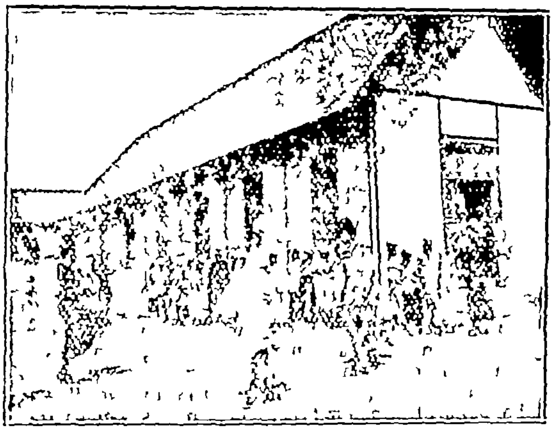
[1] Plan II. will appear with the next article

moveable flooring running along each side of the arish forming a kind of continuous camp-bed raised some two feet or so from the floor, but the Commission does not recommend this. It would only cause worse disorder than at present, it would diminish the air-space, and lead to accumulation of filth under the boards. To furnish all the houses at Camaran with such floorings would cost about £T 5000, and the Commission prefers to spend such a sum on more useful undertakings.

When the complete repair and "refection" of the Camaran lazaret were put in hand ten years ago the possibility of building "*pucca*" houses for the pilgrims instead of mat arishes was taken into consideration and a "specimen house" was run up in the *fourth cordon.* The exterior of this house is seen in Fig. 10. It has practically the same dimensions as an arish; the walls are of brick on an iron frame, the roof of Marseilles tiles resting on wooden beams and iron rods; the floor is of cement tiles. It must be confessed that this house is not the most appropriate in the special circumstances. The absence of verandahs on either side and of a ceiling in the interior makes the house extremely hot. A simple tile roof without a ceiling below is little suited for a tropical climate, the sun beats down on the tiles, which become intensely hot, and these radiate their heat to the interior.

FIG 10.



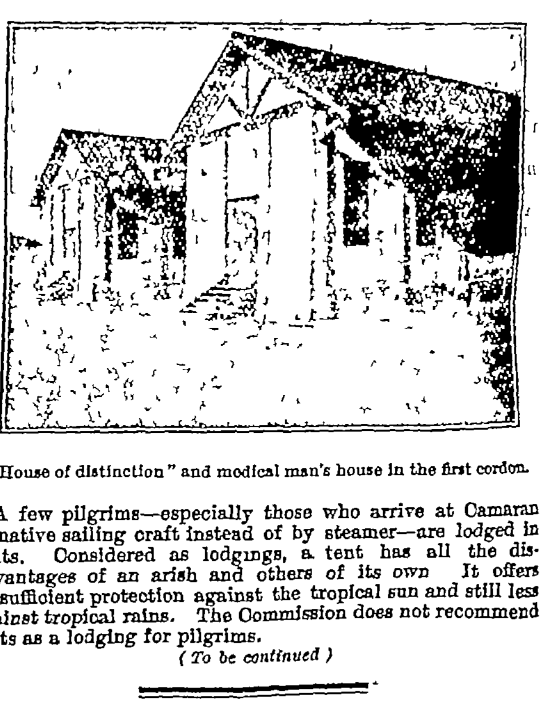
"Specimen house" in the fourth cordon

The kind of house which the Commission recommends for pilgrims is one built of the stone of the neighbourhood. This is an excellent madreporic stone; it should have no layer of plaster, either outside or inside. A damp-proof course should be inserted near the base of the walls. The roof would be *flat and constructed* of what is known in these regions as "tap-tap" Roofs of this kind are the rule in native houses They consist of wooden planks resting on stout wooden transverse beams; on the planks is laid firstly a layer of native matting; this is covered with a layer of clayey earth, then with a layer of shingle, and above all with a layer of lime plaster. The whole is well beaten down with an iron instrument during several days and it is the sound of this beating that gives to the whole the name of "tap-tap" Such a roof *lasts for many years* without repair; it is damp-proof and heat-proof (good eaves ventilation *should, of course,* be provided). Being flat it is easy by constructing a low parapet round and having an outer stair at one end to convert the roof of the house into a terrace, where the pilgrims can take the air and even sleep at night in the hot weather. In addition, the Commission recommends that the floor of such a house should be well raised on vaults, to permit of aeration underneath it, and that it should be formed of a smooth layer *of cement, to* facilitate cleanliness and disinfection.

In each cordon a "house of *distinction*" has been built, intended for better-class pilgrims. One of these houses is shown in *Fig.* 11. In that illustration two houses are seen and as a matter of fact three such "pucca" houses exist in every cordon. One of the three is usually in one corner of the cordon and is meant to be used as the "hospital"; the other two are usually side by side in another corner of the cordon and are intended to be used one as the medical man's house and the other as a "house of distinction" ("*maison de distinction*"), in which better class pilgrims can be housed apart from the others All *three are nearly identical in* construction, the only differences being that the "hospital" is divided into two rooms without a door of communication; the "doctor's house" has two rooms with such a door, and the "house of distinction" has no inner division at all. Further, the "hospital" is built on vaults and piers of brick, permitting of aeration under the floor, while in the other two buildings the floor-tiles rest on the sand. I shall have occasion in a later article to recur to this question of flooring.

The "house of distinction" and the medical man's house in each camp are indistinguishable from each other from the outside; they are also unpleasantly close to each other for the *practitioner's comfort*; and, moreover, the medical man's house, consisting of two large, bare rooms, without bathroom, latrine, *or water-supply, is* ill *suited for its purpose* For this reason the Commission proposes to build a new smaller house for the medical man *(to be referred to in a* later article) and to convert the existing house into a second "house of distinction." Both houses require repair, and it is recommended to add a verandah to each and to improve the ventilation of both of them.

FIG. 11.



"House of distinction" and medical man's house in the first cordon.

A few pilgrims—especially those who arrive at Camaran in native sailing craft instead of by steamer—are *lodged* in tents. Considered as lodgings, a tent has all the disadvantages of an arish and others *of its own* It offers no sufficient protection against the tropical sun and still less against tropical rains. The Commission does not recommend tents as a lodging for pilgrims.

(To be continued)

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

THE German Surgical Association held its annual meeting in Berlin from April 3rd to 6th, Professor RIEDEL (Jena) being in the chair. After the inaugural business, of which a eulogy on the late Professor von Bergmann and the reading of the address to be presented *by the* association to its honorary member, Lord Lister, were the principal features, the proceedings began with a discussion on

Wounds of the Heart.

Professor REHN (Frankfort) said that wounds of the heart must be sutured and that it had been proved in many instances that *the heart was not necessarily injured* by operative interference. In the course of the application of the *sutures* it might be drawn out through an opening in the thorax, it might be fixed by a loop of ligature

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medizinische-Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

thread, or it might be seized by toothed forceps, and all this might be done without producing stoppage of the cardiac action, although in some cases the muscular substance quivered when the needle carrying the suture was inserted. The diagnosis of a wound of the heart was, as a rule, not very difficult to make; it might be inferred from the position of the entrance-wound, from the direction of its track, and from the hæmorrhage. The diagnosis might even in some cases be ascertained by radiography. If the cardiac wound was not sutured death eventually occurred from compression of the heart by the hæmorrhage within the pericardial cavity, which could not contain more than from 150 to 200 cubic centimetres of blood without producing grave symptoms. Professor Rehn then explained that the filling of the pericardial cavity led to a compression of the atonic auricles, to an increase of the pressure in the veins, to anæmia of the coronary arteries and plethora in the coronary veins, and in this way to an increasing debility, and finally to stoppage of the cardiac action. The clinical symptoms were pain in the cardiac and epigastric regions, difficult respiration, cyanosis, pericardial friction, and an extension of the area of cardiac dulness. Needles impacted in the tissues might be drawn out, but knife-blades and daggers must be left in the wound until all arrangements were made for exposing the heart, because they tended to stop hæmorrhage by acting as an obstruction. The question whether an operation was indicated or not must be decided according to the circumstances of each individual case. Wounds of the heart might heal spontaneously, but the cicatrix had sometimes broken down afterwards. The operation must begin by an intercostal incision and resection of one or more ribs. If the pleura was not included in the original wound the surgeon should endeavour to preserve it intact. Hæmorrhage must be avoided as much as possible, but it often occurred after incision of the pericardium. Hæmorrhage could be stopped by drawing the heart out of the wound and compressing the vena cava inferior and even the auricles. It had been proved by experiments on animals that this might be continued for one and a half minutes without harm. The suture of the wound of the heart must be done with round needles and silk and not with catgut or wire. When cardiac failure was imminent the operation must be interrupted for some minutes.

Dr. SAUERBRUCH (Greifswald) said that he had made experiments on the influence of pneumothorax on wounds of the heart. He was of opinion that the hæmorrhage from the wound might cease, but that cardiac failure might ensue after a few minutes. He described several experiments showing that by means of his apparatus (some account of which was given in THE LANCET of May 7th, 1904, p. 1308), the lungs became inflated and the heart recovered; moreover, the pleura was less liable to become infected. He recommended that the heart should be sutured under a slightly reduced atmospheric pressure and that afterwards when the pleura was to be closed the pressure should be greatly reduced.

Dr. TIEMANN (Jena) showed a patient who had recovered after the right auricle and the right ventricle had been injured and the pleura opened by a needle penetrating through the fourth intercostal space.

Dr. GOBELL (Kiel) said that he had avoided pneumothorax by the application of Potain's apparatus; it might also be avoided by fixing the pericardium by sutures round the wound. He had proved experimentally that infarct, keloid, and even aneurysm of the heart might be caused by the sutures.

Dr. KÜMMELL (Hamburg) said that he had used direct massage of the heart in syncope occurring during general anæsthesia, after having made the heart accessible by a pericardial incision. Under massage of the heart the patient's lips again became red, the beating of the heart was renewed, and some respirations occurred, but all these phenomena soon ceased and death finally ensued.

Operations for Aneurysm.

Professor LEXER (Königsberg) read a paper on ideal operations for aneurysm. He said that an operation might be called ideal when the sac of the aneurysm was successfully removed, the circulation in the vessels being at the same time preserved. He obtained an excellent result in a case of arterio-venous aneurysm of the popliteal vessels by resecting both vessels and joining the divided ends. The resection left a gap of five centimetres between the ends but this deficiency was supplied by means of a metallic appliance. Immediately after the operation the pulse could be felt in the posterior tibial artery; nine months later, however, the pulse was less distinct because the lumen of the artery was compressed by cicatrices, but no interference with the circulation had occurred. In another case of aneurysm of the subclavian artery a gap of seven centimetres existed after the resection which he tried to fill up by the implantation of a piece of the patient's saphenous vein. Circulation was at once restored, but after five days the patient became delirious and died. At the necropsy it was found that no thrombus was present within the implanted piece.

Dr. STICH (Breslau) said that he had made experiments on the transplantation of arteries and veins of one millimetre in diameter from one animal to another and had succeeded in obtaining complete union of the implanted piece without disturbance of the circulation. In a dog he had cut the renal vessels, ligatured the central ends, and joined the peripheral ends with the iliac vessels; the implantation succeeded and the kidney continued to secrete urine. When the dog was killed several months afterwards no important alterations in the implanted parts were found. In the same way he had implanted the thyroid artery and vein of a dog into the carotid artery.

Operations on the Lungs.

Professor FRIEDRICH (Greifswald) said that the results of operations for tuberculous disease and actinomycosis of the lungs have been unsatisfactory but that they have improved in cases of echinococci and especially in gangrene. In acute cases of gangrene the prognosis was good but in chronic cases it was bad, especially when a resection of several ribs and of considerable parts of the lungs became necessary. The determination of the position of the gangrenous area was difficult though it was now facilitated to some extent by radiography; it was also difficult to decide whether adhesions of the pleura existed. Professor Friedrich recommended that the surgical intervention should be completed in one operation as soon as the existence of a circumscribed abscess in the lung had been ascertained. The lung was fixed by sutures after the resection of the ribs. He preferred to make the opening into the lung by cutting instruments rather than by means of the thermo-cautery, the hæmorrhage being stopped by ligatures. If the abscess was not found at once a provisional plugging was advisable as the pus was often discharged spontaneously after some time through the opening. The proportion of recoveries was about 70 per cent. in localised gangrene. The prognosis was unfavourable in the case of the abscesses of bronchiectasis because the patients were less resistant and the abscesses, as a rule, were multiple. With regard to operations for primary tumours of the lungs, the experience hitherto acquired was not sufficient to enable a definite opinion to be formed. In 73 cases of tumour of the thoracic walls extensive resections of the ribs were performed and 27 cases terminated fatally. In injuries of the lungs those complicated by profuse hæmorrhage might be operated on. With respect to the use of Dr. Sauerbruch's apparatus for reducing the atmospheric pressure, Professor Friedrich was of opinion that its advantages consisted (1) in the ease with which a view of the entire lung might be obtained through the incision and (2) in the possibility of resecting a rib in it without producing pneumothorax. Possibly in the future an exploratory thoracotomy would be as easy as an exploratory laparotomy was at present. It had, however, certain drawbacks, such as the high temperature within the chamber and the limited space, making it difficult for the surgeon and his assistant to move. General anæsthesia was necessary only at the beginning and at the end of the operation. The costal pleura was the most sensitive of the structures implicated, the pulmonary pleura was less sensitive, and the substance of the lungs, the pulmonary vessels and the distal parts of the bronchi were totally devoid of sensation. The maximum duration of operations performed in Dr. Sauerbruch's chamber was one and a half hours. The cyanosis as a rule increased. When pneumothorax occurred suddenly the pulse at once became irregular; the bending at the hilum of the lung made the respiration cease and the pulse disappear. Professor Friedrich recommended that ligatures should not be applied en masse in the resection of portions of the lungs but that the vessels and the bronchi should be isolated individually. The total resection of one lung was impossible because of the impossibility of tying the bronchus in a trustworthy way and of avoiding the occurrence of emphysema of the posterior mediastinum by a loosening of the ligature.

Dr. **LENHARTZ** (Hamburg) reported a lengthy series of cases of pneumotomy of which 85 were performed for gangrene, five for abscesses, 11 for bronchiectasis, and four for cancer. Recoveries followed in 53 of the cases of gangrene and in four of the cases of abscesses, the remainder terminating fatally. With respect to the diagnosis of cancer in the lungs, he said that four points should always be regarded—namely, the presence of cells showing fatty degeneration, which were characteristic; the evidence supplied by radiography; and the results of physical examination and exploratory puncture. He had operated on four cases out of 23, of which one was temporarily successful. All the operations were performed without Sauerbruch's chamber which he believed could be dispensed with. Pneumothorax might occur afterwards when the dressing was changed. He always operated in two stages, resecting the rib at the first operation and incising the lung at the second one. He drew attention to the fact that syncope and even death might occur at the moment when the pulmonary pleura was cauterised.

Professor **KÖRTE** (Berlin) confirmed the latter observation. As the result of 41 operations on the lungs which he had performed he had come to the conclusion that the diagnosis of these conditions was not easy. When there were multiple foci of disease the operation was often very difficult and the prognosis was bad. He said that nothing which he had heard in the discussion had convinced him of the utility of Sauerbruch's chamber.

The **PRESIDENT** asked whether the great hospitals and universities were under a moral obligation to purchase Sauerbruch's chamber, the price of which was still extremely high—namely, from 15,000 to 18,000 marks (from £750 to £900).

Professor **FRIEDRICH** in his reply repeated that the number of cases was still too small to allow of a definitive judgment being formed. Abscess and gangrene of the lungs might be operated on without Sauerbruch's chamber, for brilliant results had been obtained by Professor Lenhartz and Professor Garré without it.

Dr. **SEIDEL** (Dresden) recommended as an alternative to placing the walls of the lung under reduced atmospheric pressure that the bronchial system should be subjected to increased atmospheric pressure as already recommended by Professor Petersen; the pulse, the respiration, and the blood pressure were not altered in the circumstances.

Dr. **SAUERBRUCH** replied that the right ventricle and auricle were damaged by this method.

Professor **KÜTTNER** (Marburg) said that he had performed several operations under increased atmospheric pressure and that he was well satisfied with the results.

Professor **SCHLANGE** (Hanover) said that in severe hæmorrhage from a tuberculous lung he resected the third rib as quickly as possible under local anæsthesia. He then loosened the apex of the lung, drew it out of the wound, and plugged the cavity. The hæmorrhage was stopped by the plugging, but, of course, no influence was exerted on the progress of the tuberculous process.

Professor **KAREWSKI** (Berlin) read a paper on Actinomycosis of the Lungs. He said that he had operated on four cases, of which three had terminated fatally. In his opinion only primary actinomycosis of the lungs was suitable for operation while the disease was still in an early stage and the infected focus was removeable. Metastatic actinomycosis was not operable. An early diagnosis was essential before the thoracic walls were attacked by the disease. With regard to the difference between actinomycosis and tuberculous disease of the lungs, he pointed out that actinomycosis was especially liable to attack the lower lobes. Fibrinous discharge and especially the presence of actinomyces in the sputum suggested the diagnosis; radiography was also of some assistance.

Dr. **MERTENS** (Breslau) said that he had obtained a good result in a case of punctured wound of the lung with profuse hæmorrhage by resecting a rib and suturing the injured part with catgut sutures.

(To be continued.)

GRESHAM COLLEGE.—Four introductory lectures will be delivered on May 14th, 15th, 16th, and 17th by Dr. F. M. Sandwith, Gresham Professor of Medicine, at 6 P.M. The subjects are as follows: Lectures I. and II., "Sir Thomas Gresham and his Times"; Lecture III., Influenza; and Lecture IV., Cerebro-spinal Fever (Epidemic Cerebro-spinal Meningitis or Spotted Fever).

THE MILK-SUPPLY OF LONDON: SOME PERSONAL OBSERVATIONS UPON ITS RAILWAY TRANSPORT.

(FROM A CORRESPONDENT.)

III.[1]

The Midland and London and South-Western Railways.—The Great Northern Railway.—The London and North-Western Railway.—The Great Eastern Railway.—The South-Eastern and Chatham Railway.—The London, Brighton and South Coast Railway.

THE Midland Railway carries a very large quantity of milk to London, the greater part of which is brought from Derbyshire, North Staffordshire, Nottinghamshire, Bedfordshire, and Leicestershire. The milk brought into London by this railway is largely delivered to the suburban stations at Kentish Town, South Tottenham, Hendon, and Cricklewood; that reaching the terminus is delivered at Somers Town, the name given to that part of St. Pancras station used as a goods station. Here there is a special depôt for the unloading of milk and other perishable commodities. Two special milk trains are run by this company, one of which arrives by night and the other at noontime. These trains are made up on an average of 20 vans, each of which will contain about 50 cans of milk, although the usual load is about 30 cans. The milk vans are almost all of one pattern and are of comparatively recent construction. They are well ventilated and the ventilating interstices are covered on the inside by gauze wire to exclude dust and dirt. The great bulk of the milk conveyed to London by the Midland Railway comes by the special milk trains, but milk vans are attached occasionally to passenger trains and small quantities of milk are carried in the guard's vans of passenger trains.

The London and South-Western Railway conveys much milk to London, chiefly from Somersetshire and Dorsetshire. This company runs special milk trains which arrive by night and in the morning, and these are unloaded at Waterloo and Vauxhall stations. Many of the vans are specially constructed for carrying milk, roomy, and efficiently ventilated, but some are old passenger train guard's vans which by their external appearance do not strike an observer as particularly well adapted for the purpose to which they have been put. The London and South-Western Railway carries the bulk of the milk conveyed on its system into London itself into Vauxhall station. 1500 cans daily come into Vauxhall station, chiefly carried by special milk trains, two of which come in during the morning and three by night. A considerable amount of milk is also conveyed by special vans attached to ordinary trains and by the guard's vans of ordinary trains. A great deal of the milk brought into Vauxhall station is transferred to Battersea and Chelsea, and to some other points, while a goodly portion [illegible] the milk brought into the London district by the London and South-Western Railway is deposited on the way at suburban stations, as Wimbledon, Surbiton, and Clapham Junction. The milk traffic on the London and South-Western system has greatly increased during the past few years.

To the main terminus of the Great Northern Railway at King's Cross a large quantity of milk is brought daily, though not so much as to Paddington. The greater part of the milk comes from Derbyshire and North Staffordshire, so that most of it has to travel a greater distance than is the case with the bulk of the milk brought into London by the Great Western Railway. Still, the distances traversed are not very great, for the farthest point from which milk is transported to the metropolis by the Great Northern Railway is between 140 and 150 miles. In the course of 24 hours two special milk trains are run at a rapid rate, which arrive in London during the early morning. One of these trains leaves Stafford at 6.40 P.M., picks up milk *en route*, and gets into King's Cross at 1.36 A.M., occupying about seven hours on the journey, the other is not quite so rapid. These trains account for the greater part of the milk carried by this company, although a certain amount is transported in the vans of passenger trains, but much of the milk brought into London by the Great Northern Railway is deposited at Finsbury Park and other outlying stations, whence it is distributed to suburban districts. When the milk is unloaded at a suburban station it is deposited upon, as a rule, much cleaner premises, but at King's Cross, as at Paddington, the milk in the special trains is unloaded at a milk wharf, constructed especially for the purpose. I watched the arrival of two of the Great Northern milk trains. Although the sole purpose of these trains was the conveyance of milk, some of the vans used were the ordinary vans employed for passengers' luggage, though more were the North Staffordshire Railway milk vans. These are constructed on a similar plan to the milk vans of the Great Western Railway, with open boarded sides. Some of these vans were of a type recently introduced. They were long vans divided into two compartments, each of which can carry 40 milk cans, and the methods of ventilation seemed to be fairly effective. I observed on the Great Northern milk wharf that many of the cans containing milk had their lids partly open and the surface of the milk was in one case filthy.

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[1] Nos. I. and II. were published in THE LANCET of April 20th (p. 1116) and 27th (p. 1189), 1907, respectively.

The London and North-Western Railway carries a certain amount of milk to London from very remote districts, but the greater part of the milk brought into London by this line comes from localities lying within an easy journey, Buckinghamshire and Hertfordshire being chiefly drawn upon. The bulk of the milk which comes to Euston Station, like that which reaches Paddington, is conveyed by special milk trains arriving by night and in the morning. The vans used for the transport of milk by this company vary considerably both in size and in construction. There are now in use on the London and North-Western system corridor trains for the carriage of milk, the vans of which have efficient ventilation; indeed, the corridor scheme of construction possesses many advantages for the transport of milk. I saw one of these new corridor trains; it was made up of a somewhat novel type of milk van 50 feet in length, 8 feet in width, and 7 feet 10 inches high in the centre. For cooling and ventilating this van 12 torpedo ventilators are placed in the roof to extract the air and at a height of five feet from the floor level are louvred ventilators, protected by perforated zinc, to keep out the dust. The floor is covered with sheet lead, and the sides to a height of three feet are sheathed with stout zinc sheets. The chief and distinctive feature of such vans, however, is that they can be operated singly or may be coupled together to form a train, for which purpose they are provided with gangways, and in order to minimise delay at stations a truck is provided in each van so that the milk can be sorted *en route*. The advantages claimed for corridor milk trains over ordinary milk trains are the greater facility with which milk can be sorted *en route* and the better means which they provide for loading and unloading. I watched the incoming of an ordinary milk train at this station. It arrived at Euston at 11.45 A.M. This train consisted of ten vans of different types of construction. One of these was a long van built in two compartments, resembling externally the two-compartment vans in use on the Great Northern Railway, the capacity of the vans being about the same. Four vans were close boarded, two were lofty vans with side ventilation, and two were ordinary passenger guard's vans. This train came from Gloucestershire and Worcestershire, picking up milk on the way; and judging from the labels on the vans some of the milk had come from a considerable distance, much farther than made the use of passenger guard's vans prudent. It is possible that in the summer heat a better arrangement is made. A considerable quantity of milk is obviously brought into London by the London and North-Western Railway in the vans of passenger trains. I witnessed the arrival of trains from long distances, from the luggage vans of which cans containing milk were put out—20 cans were put out from a Fleetwood train, for example. It does not follow that the milk had been carried from Lancashire to London—indeed, it is more likely that it had been collected *en route*. But this would imply a stopping train, which is equivalent for the purposes of milk transport, when one of the essentials is economy of time, to a long journey. It does not matter much whether milk has been carried 60 miles or 120 miles if in each case the same time is occupied on the journey. I also saw a passenger train arrive at Euston from Nuneaton at about 11.30 A.M., from the guard's van of which cans containing milk were unloaded. This sort of thing I saw on each of several visits paid to Euston Station recently, where there is also a large quantity of cans containing milk standing on certain of the passenger platforms. I must repeat monotonously that the lids of some of these cans are invariably partially open. At Euston, as at Paddington, on more than one occasion I have seen milk poured from one can to another can on the platform. If this is a daily routine the reasons for the dangerous process ought to be removed by proper coöperation on the part of consigner, consignee, and railway company; it is little short of disgusting that on the platform of a railway station, where dust and dirt are notoriously abundant, the staple food of children and invalids—a food which is obviously susceptible to rapid deterioration—should be decanted from receptacle to receptacle. Possibly a comparatively small quantity of milk is thus treated, but the toleration of such a practice shows that some of those commercially interested in the transport of milk have yet to learn the alphabet of scientific cleanliness.

The Great Eastern Railway conveys milk to London from Norfolk, Suffolk, Essex, Lincolnshire, Hertfordshire, and Cambridgeshire. It is carried in special milk vans attached to ordinary passenger trains. The milk vans which I saw at Liverpool-street Station had a capacity of about 70 cans, the average contents of each can being about 16 imperial gallons. I was informed that ten milk vans or thereabouts enter Liverpool-street Station during the 24 hours, which would make 11,000 imperial gallons in the course of a day. The farthest distance from which milk is brought to London by this line is not much more than 100 miles, and the average time taken by the milk vans on the journey is four hours. Sometimes one van is attached and sometimes two vans are attached to a train. Milk is collected *en route* in varying quantities. It appeared to me from my brief inspection that the milk traffic on the Great Eastern Railway was well managed. Of course, the volume dealt with is small compared with that manipulated by some of the other railway companies, but all that I saw impressed me favourably. The milk vans were well constructed and efficiently ventilated, and considering the shortness of the journey from the eastern counties to London there should be little fear, so far as the railway transport is concerned, that the milk would not arrive in good condition. I understand that consigners of milk by the Great Eastern Railway are generally well satisfied with its methods of transport; the only disagreement which has arisen between dairy farmers sending milk by this route and the railway company has been as to the rates for carriage. However, this has been, and is still, more or less a bone of contention between all the railway companies and consigners of milk, and from what I heard I could not see that there were any especial grounds for the complaints of the farmers of the eastern counties.

The South-Eastern and Chatham Railway carries milk into London Bridge, Charing Cross, and Victoria stations, milk being also put off at Woolwich, Dartford, and New Cross. Practically all the milk conveyed by this company is carried by passenger trains, but the amount brought in is small as compared with the other important railways. The milk conveyed to London and the suburbs by this line is, for the most part, sent in small consignments and comes, of course, principally from Kent, Surrey, and Sussex. The greater part of the milk carried into London itself by this route comes to London Bridge Station, but the whole amount thus transported is not large. That conveyed into the South-Eastern and Chatham Railway station at Victoria is small in quantity, but in the summer a considerable amount of milk, from 90 to 100 cans daily, is despatched from this station by passenger trains to seaside resorts.

At the present time a very insignificant quantity of milk is brought into Charing Cross Station. Since the accident to the roof of this station some 18 months ago the milk traffic has declined greatly, but a large quantity of milk is carried to Woolwich and Dartford. The suburban milk traffic of this line is far larger than the metropolitan.

The London, Brighton, and South Coast Railway conveys milk from different parts of Sussex into London and the suburbs in special milk vans and in the guard's vans of passenger trains. The large consignments are carried in special vans and the small consignments are frequently carried in the guard's vans of passenger trains. This line, though deriving its milk traffic almost entirely from Sussex, also carries a certain amount of milk from adjacent districts in Kent and Surrey. Almost the whole of the milk conveyed to the London district by the London, Brighton, and South Coast Railway is left at suburban stations situated between Croydon and Sutton. A relatively large amount of milk is deposited at Croydon itself. The time taken by trains travelling by this route carrying milk to reach London and the suburbs is not, as a rule, longer than one and a half hours.

In some respects the conditions in regard to milk transport by the South-Eastern and Chatham Railway and by the London, Brighton, and South Coast Railway are similar. Both lines carry milk into London and the suburbs from comparatively short distances and both deposit the greater part of their milk cargo at suburban stations. Passenger trains are employed by both lines to transport milk, more so by the South-Eastern and Chatham Railway than by the London, Brighton, and South Coast Railway. The milk cans are unlocked and unsealed, which doubles the risk of carrying the fluid in the guard's van of a passenger train.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

St. John Ambulance Work.

THE annual competition in connexion with the North Western District Nursing Division of the St. John Ambulance Association took place at Blackpool on May 4th. This very useful association covers a wide area, as shown by the sections examined coming from Liverpool, Rochdale, Lytham, Preston, Accrington, Bolton, Castleton, Brierfield, Bury, Crompton, Barrowford, Oldham, and Nelson. The trophy offered was a silver shield which was presented to the association in 1902, in which year and also in 1903 it was won by Blackpool. Since then it has been won by Lytham, Rochdale, and Blackpool in chronological order. Winning in 1906 Blackpool did not compete this year, when Brierfield came out first, Lytham second, and Nelson third. The examiners and judges were Dr. J. W. Johnstone of Bolton and Dr. J. Broomhead of Haslingden. It is difficult to estimate the good that is done in this way; we may be sure, however, that it is not limited to the winning teams but that a leaven of sanitary growth is working far and wide through the manufacturing districts of Lancashire where it is so much needed.

Royal Albert Asylum, Lancaster.

It is now more than 40 years since the Royal Albert Asylum at Lancaster was opened for the treatment of all improvable grades of the feeble-minded in the northern counties of England. It was established, and is chiefly maintained, by public subscription and there is now accommodation for 700 inmates. At present there are about 650 patients and the election for this year's applicants will take place at the County Hall, Carlisle, on Wednesday next. The objects and methods of the institution will be explained and specimens of work done by the patients will be exhibited. For the 50 vacancies there are 83 candidates—a fact which shows not only the great need that there is for such an institution but also the confidence of the public in intrusting those whose mental strength is feeble to the judicious and kindly training given at the asylum. The committee appeals for donations and subscriptions, as a large addition to the annual income is needed if full advantage is to be taken of the existing accommodation. Of the present inmates 269 belong to Lancashire, 72 of them coming from the Manchester and Salford district. In connexion with this forthcoming election a meeting of the Manchester local committee and the members of the Manchester and Salford District Ladies' Association was held in the Memorial Hall on April 30th. The secretary, Mr. Keir, said that the district was still deeply indebted to the institution for the maintenance and training of the patients whom it sent. The returns of the District Ladies' Association, though not yet complete, compared favourably with those of last year and a substantial increase in the amount collected was anticipated. On behalf of the central committee Mr. Keir thanked the members of the local committee for their services. It is to be hoped that the efforts made will take away the reproach that the Manchester district does not provide sufficiently for the patients whom it is so glad to safeguard in the asylum.

University of Manchester.

Interesting developments are taking place in the University of Manchester. One of them is perhaps only indirectly connected with medicine but is interesting on its own account. It has been decided to appoint lecturers in economic zoology and economic botany. They will investigate the life-history of animal and vegetable pests and will inquire into definite instances of damage done by pests which are brought to the notice of the University by local authorities, by farmers, or others. This branch of work is in many respects analogous to that carried on in the field of bacteriological research by the public health department of the University under Professor S. Delépine. Lectures on their subjects will be given in the University by the new members of the staff. Improved facilities for teaching experimental psychology are also receiving consideration by the University authorities, and indeed the appointment of a teacher in this subject is only awaiting the possession of sufficient means. It is thought that this appointment will have an important influence on the investigation of mental and nervous diseases and likewise on the study of the conditions of school life and the mental development of children.

Manchester Jewish Hospital.

The board of the Manchester Jewish Hospital has appointed Dr. Julius Dreschfeld and Dr. Judson Bury as honorary consulting physicians.

Pulmonary Tuberculosis at Rochdale.

During the last half century the deaths from pulmonary tuberculosis at Rochdale have fallen to 1·32 per 1000, being 2·33 per cent. lower than the rate at the beginning of the period. This reduction is something to be thankful for but not to rest satisfied with.

Manchester Royal Eye Hospital.

The Manchester Eye Hospital is to be enlarged at an estimated cost of £23,000. 50 more beds for patients will be provided, making a total of 160, a number expected to meet all requirements for a long time to come. The old hospital in John-street is retained for out-patients, and the two out-patients' departments treat about 30,000 cases annually.

Lead and Soda-water.

An inquest was held on April 30th on the body of the wife of a Manchester fruiterer. She had been ailing for some time and had suffered some pain. To relieve this she took several draughts of soda-water from the soda-water fountain in the shop, but as she grew worse Dr. Saul and Dr. Helm were called in and advised her removal to the Northern Hospital, where she died. Dr. Helm said that the cause of death was lead poisoning, and on analysing a sample of water from the fountain he found that it contained seven grains of lead per gallon absorbed from the lead piping attached to the machine. The verdict was "Death from lead poisoning" and the jury recommended the inspection of all the machines of the kind in the city. It would have been quite justifiable if they could have ordered the destruction of all such machines. The knowledge of the very easy contamination of water by lead is now so general that it is scarcely possible to imagine the manufacturers of these dangerous fountains having preserved their ignorance of this fact intact, more especially in regard to water charged with carbonic acid. It becomes, therefore, a question as to their position legally and morally when they turn out for public use these fountains for distributing lead and soda-water.

May 7th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Port Sanitary Authority.

ALTHOUGH at the time of its establishment the Cardiff and County Public Health Laboratory was criticised as involving an unnecessary and useless expenditure of public funds, every year the advantages of such an institution are more apparent. Nowhere are these more clearly shown than in the work done in the laboratory for the port sanitary authority. On several occasions, though happily the necessity did not arise in 1906, the diagnosis of plague has been speedily verified, so that justification has been found for the subsequent drastic measures which have prevented any spread of the disease. This ability to deal speedily and successfully with such a disease as plague must give a sense of security to all those who are engaged in the shipping business of the port and it is beginning to be realised that the expenses connected with the administration of the port sanitary authority are a form of insurance against the losses—and they might assume large proportions—which would follow the almost certain neglect of the port by ship-owners should an outbreak of infectious disease become unmanageable. The reputation which the Cardiff Port Sanitary Authority is justly earning for dealing promptly and successfully with any such outbreak ought to be reckoned among the assets of the town. In 1906 the assistance rendered to the port sanitary authority by the public health laboratory appears to have been confined to the bacteriological examination of samples of drinking water taken from vessels entering the port. Altogether 90 such samples were examined and of this number seven were stated to be very impure, 48 impure, 24 fair, and 11 good. Of the 12 samples examined during October all but two were found to be either impure or very impure.

Typhoid Fever in Swansea Rural District.

At the last meeting of the West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health an interesting account was given of the recent outbreak of typhoid fever at Gorseinon in the Swansea rural district by Dr. William Williams, medical officer of health of the Glamorgan county council; Dr. Trafford Mitchell, one of the medical officers of health of the rural district; and Dr. H. A. Scholberg, the bacteriologist to the Cardiff and County Public Health Laboratory. The epidemic was thus dealt with from more than one point of view. Gorseinon is a scattered industrial district where the insanitary conditions too often found in such areas are in evidence. The outbreak started in September, 1906, with two cases, each of which, though doubtful clinically, gave positive Widal reactions. Then followed a group of five cases around a contaminated well, all of the patients affected being relatives of the first case. A systematic examination of all cases of pyrexia was then instituted, with the result that several ambulatory cases were discovered. Family relationship was evident in every group. In every family tested for the Widal reaction there were positive results in one or more instances. The ambulatory character of the epidemic is evidenced by the fact that 62 of the 100 cases were diagnosed in the consulting-room. The blood of many "contacts" was examined, but a positive reaction resulted only where clinical symptoms were present. Personal infection appeared to be a considerable factor in causing the spread of the disease. Two medical officers who were engaged in coping with the epidemic developed the disease in its ambulatory form. There was some evidence in favour of the disease being spread by means of the public elementary schools and they were accordingly closed for a period. The water-supply was derived from 20 wells, only one of which was found to be contaminated.

A Proposed County Medical Officer of Health of Monmouthshire.

In recent reports upon the condition of certain sanitary districts of Monmouthshire medical inspectors of the Local Government Board have recommended the grouping of districts for the purpose of appointing a whole-time medical officer of health. These recommendations have led the county council again to consider the desirability of appointing a medical officer of health for the county. There is no doubt that this official ought to have been appointed years ago. There is ample work for him to do in the rapidly increasing colliery districts of the county.

The Meat-supply of Plymouth.

At a recent meeting of the Western Counties branch of the Veterinary Surgeons' Association held at Plymouth remarks were made on the alleged insufficient inspection by the local authorities of the meat-supply, in consequence of which carcasses were brought into the "Three Towns" in a diseased condition and animals unfit for human food were slaughtered in the private abattoirs and sold at the small shops. A considerable discussion arose over the matter in the local press. A meeting of the Plymouth markets committee of the town council was held to consider the subject and it decided to ask the Veterinary Surgeons' Association to give instances of diseased meat having been brought into Plymouth or of diseased animals having been slaughtered in the town and exposed for sale. The association in its reply stated that the allegations made were not meant specifically to apply to Plymouth but generally, because the members of the association had it within their knowledge that such things did occur in large cities. The markets committee felt that the reply was not satisfactory and decided that inquiries should be carried further; it also determined that the whole matter should be referred to the medical officer of health who will report the result of his investigations.

The Royal Mineral Water Hospital, Bath.

The annual meeting of the governors of the Royal Mineral Water Hospital, Bath, was held on May 1st, under the presidency of the Rev. H. Winwood. The medical report stated that 1185 in-patients had been admitted during 1906, compared with 1161 in 1905. The average daily number of occupied beds was 145. The financial statement showed that the ordinary income amounted to £4881, while the ordinary expenditure was £5095, leaving an unfavourable balance of £214 Colonel M. Ricketts was elected president for the ensuing year.

May 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Extension of the Glasgow Samaritan Hospital.

LAST week Lady Blythswood opened the new wing and extension just completed of the Glasgow Samaritan Hospital for Women. The new wing contains four large wards with accommodation for ten beds each and four smaller wards with accommodation for three and two beds each, two large convalescent rooms, and two well-equipped operating theatres. The administrative block between the old and new wings has also been entirely remodelled. The cost of building and furnishing the new wing, together with other additions and alterations, amounts to over £12,000, while the total cost of the whole hospital buildings, including nurses' home and dispensary, has been about £40,000.

Report of the Glasgow Hospital for Skin Diseases.

The annual report of this institution shows that during the past year 1742 new cases were treated at the hospital, making 61,496 since its foundation in 1861, while 103 of the more serious affections were admitted to the wards of the Western Infirmary which are in connexion with the hospital.

Greenock Meat Inspection Inquiry.

On account of dissatisfaction expressed as regards the methods employed in dealing with the carcasses of animals slaughtered at Greenock the Local Government Board several weeks ago instituted an inquiry into the procedure in use in the slaughter-house there. Dr. F. Dittmar in his report states that there are evidences of great slackness having been permitted for years past in the system of meat inspection. The report covers a period of ten years, and after going into the statistics of carcasses condemned during that time he points out that as compared with Glasgow the percentage of condemned carcasses is too large. He also holds that the tripery and the digestor at the slaughter-house, together with the feeding of the animals, should be in the hands of the corporation and not of private individuals. It is also suggested that a veterinary surgeon should be appointed to give his whole time to the work, as well as two meat inspectors and a cleaner.

The Northern Infirmary, Inverness.

The annual meeting of the managers of the Northern Infirmary, Inverness, has just been held, ex-Provost McBean presiding. Mr. Duncan Shaw, W.S., honorary secretary, gave in the annual report. The installation of the electric light has now been completed and it is hoped that the apparatus for electrical treatment will soon be placed in the infirmary. A new water-supply has been introduced into the convalescent home at Bona. Reference was made to the lamented death of the Rev. Dr. Black, who was a manager for a long number of years, and of Mr. Charles Marshall Brown, the honorary secretary. Considerable discussion took place with regard to the admission of patients suffering from pulmonary tuberculosis into the infirmary, and ultimately a motion was carried to the effect that the present arrangement as to the admission of such patients should be continued for one year from this date, but in view of the fact that pulmonary tuberculosis is now an infectious disease by order of the Local Government Board and that provision had to be made by local authorities for such cases, the infirmary will not continue to accept such patients after that date. The financial report for the past year stated that the ordinary revenue for the year amounted to £2294 and the ordinary expenditure to £3663 showing a deficiency of £1369 as compared with an adverse balance of £1166 in 1905. The legacies also showed a considerable decrease on previous years. The net results of the year's working, after applying the legacies to current requirements, showed that the accumulated funds of the institution had been still further reduced by a sum of £1085. The finance committee suggested that the managers might remit to it and the new honorary treasurer when he was appointed, with full powers to carry into effect an arrangement for the collection of subscriptions. The daily number of inmates, including patients and attendants, was 91·8 for 1905 and 89·6 for 1906; patients only, 57·8 for 1905 and 57·6 for 1906. The average duration of treatment of patients in 1906 was 29·3 days, as compared with 30·2 days in 1905. The report was adopted and the managers and committees were appointed.

Scottish Trades Congress: Death Certificates.

At the above congress recently held in Aberdeen the following motion was carried :—

> To instruct the parliamentary committee to press forward legislation to provide that all societies, whether trade union, friendly, or industrial, who pay funeral allowances shall be placed upon an equal footing as regards fees for obtaining certificates of death of members.

The summer session of the University of Aberdeen opened on April 30th.

May 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Dublin.

AT a meeting of the Senate of the University of Dublin held on May 3rd a grace was passed offering the degree of LL.D. *honoris causâ* to the Colonial Premiers at present in England.—A certain gloom has been cast over Trinity College by the death of Dr. John Kells Ingram, some time Senior Fellow and in 1898 Vice-Provost of the College, one of the most distinguished scholars of the University of Dublin during its brilliant Victorian era. When he was an undergraduate he wrote a poem, entitled "The Memory of the Dead," better known now as "Who Fears to Speak of Ninety-Eight?" The modern Nationalists have adopted it as their anthem but Dr. Ingram, I believe, never expressed any sympathy with their aims. He died at his private residence in Mount-street on May 1st.

The Rotunda Hospital.

A charter meeting of the board of governors of the Rotunda Hospital was held on May 3rd, General the Right Hon. Lord Grenfell, G.C.B., being in the chair. After the usual routine business was completed Mr. John William Bell was, on the nomination of the master, unanimously appointed as assistant to the master in the room of Dr. Guy Theodore Wrench, resigned.

The International Exhibition.

The International Exhibition in Ireland was formally opened by the Lord Lieutenant and Countess of Aberdeen on May 4th. They drove in state through the streets of Dublin and were received with cheers. Lord Aberdeen addressed the assemblage at the exhibition and read a gracious telegram from the King wishing success to the venture. On Monday, May 6th, the Marchioness of Ormonde received the officers of the *Britannia*, one of the splendid battleships in the bay, at the hall of the exhibition and presented them with a beautifully engraved ship's bell and many silver ornaments for their mess.

The Health of Belfast.

At a meeting of the city council held on May 1st it was reported that for the four weeks ended the 13th ult. the death-rate in Belfast from all causes was 23·2 per 1000. There is a diminution in the number of the ordinary infectious diseases but, on the other hand, cerebro spinal meningitis still continues, the numbers being practically the same as last month—100 as against 104—and the death-rate from zymotic diseases—1·6—is higher than in the previous month. On May 2nd, at a meeting of the public health committee, it was reported that 20 cases of cerebro-spinal fever had been notified during the week as compared with 36 in the previous week. The death-rate for the week ended April 26th was 23·9 per 100 Of late several cases of cerebro-spinal fever have occur among adults.

The Belfast Health Commission.

The Health Commission has sat continuously from April 25 to May 3rd investigating the question of the purity of t water-supply. Professor E. A. Letts (who objects to t Stoneyford and Woodburn water on chemical grounds), Dr. Alexander and Dr. D. P. Gaussen (who are the dispens medical officers of the Stoneyford area and who showed liability to pollution), Mr. F. McCullough (engineer), and R. Hamerton (secretary of the water commissioners), as w as Professor P. Frankland, Dr. A. C. Houston, and Dr. M. Gordon, who gave evidence on behalf of the water trust, a Mr. Sweeny, an engineer, who thought the water from Ston ford and Woodburn was not above suspicion, were all e mined. The Commissioners have also visited the catchment areas. On May 14th the commission, which is doing its work thoroughly, will again sit in Belfast to hear evidence as to the sanitary state of that city. At the last monthly meeting of the city council (May 1st) reference was made by some of the members to the cost of the health commission, but—and largely, it would appear, owing to the action of the Public Health Committee—the citizens are saddled with the fees of a King's counsel who sits beside the chairman of the Public Health Committee at the sittings of the Commission. The reforming party in the Belfast corporation—who are steadily increasing—have protested very strongly against this expenditure in legal fees.

Cerebro-spinal Fever in Belfast: Dr. M. H. Gordon's Views.

At the sitting of the Belfast Health Commission on April 30th Dr. M. H. Gordon, who has for some time been retained by the Local Government Board (English) to investigate the problems presented by the etiology and treatment of cerebro-spinal fever, gave some remarkable evidence. After alluding to the report which has been issued by his Board on the subject of the meningococcus, and to the bacteriological evidence obtained in America and Germany showing the main cause of the disease to be the micrococcus of Weichselbaum, he stated his view that the people most liable to carry the organism of the disease, and so to infect others, are those who have been in contact with the infected but are themselves well. This view was somewhat modified by a further statement that these mediums for infection might exhibit a mild meningitis, while they are capable of handing the organism over to others who are less resistant, especially children, and so to spread the disease. In Germany it was found, he said, that 10 per cent. of "normal" people in contact with the disease showed what was identified as the meningococcus in their respiratory passages, and in the same epidemic 20 per cent. of the affected showed organisms in the same locality. It was found during the first few days that some 50 per cent. of the patients presented signs of the meningococci in the upper respiratory passages. As these facts have not been noticed by our medical authorities Dr. Gordon suggested that it was necessary in the case of Belfast to have the services of a bacteriologist to devote himself to the question of cerebro-spinal meningitis, so that detailed knowledge might be obtained for purposes of prevention. He pointed out that if the German observations were accurate the isolation of "normal" contacts would have to be made compulsory for the good of the community, and with the example of the methods adopted in the case of diphtheria before him he saw no great difficulty in such a scheme. He rightly declined to assert dogmatically that contacts in cerebro-spinal meningitis should be segregated for any particular period of time, on which question he said that he should prefer to consult Professor W. Osler who was one of the committee which investigated a recent and appalling outbreak of cerebro-spinal meningitis in New York. After mentioning the possibility that without bacteriological investigation the mild respiratory symptoms sometimes present in those whom he termed the "normal" contacts in regard to cerebro-spinal meningitis might be confused with the symptoms of pneumonia—a fact which pointed again to the necessity of systematic bacteriological investigation of all notified cases of cerebro-spinal meningitis—Dr. Gordon, in a properly guarded way, mentioned some investigations, not yet complete, by means of which epidemics of cerebro-spinal meningitis might be prevented. He informed the Belfast Health Commission that the methods to which he alluded, which are at present of a confidential nature, are on the lines adopted when using preventive prophylactics for plague, cholera, and typhoid fever, and added that the few experiments so far made showed the treatment to be harmless and promising. It is only fair to say that the bacteriologists who in Belfast are making most careful investigations of cerebro-spinal fever do not accept Dr. Gordon's views on many points and are sceptical—from their work—of any preventive vaccine or serum being discovered. They have worked direct from the cases and not from any borrowed strains of the meningococcus. The serum sent from Germany has been shown to be useless both clinically and by laboratory experiments, and, what is still more peculiar, the blood from cases of cerebro-spinal meningitis in London does not react to the meningococcus present in the Belfast epidemic; and the cases seen in Belfast are, many of them, clinically quite different from those which under the term posterior basic meningitis or cervical opisthotonos of infants were supposed to be endemic examples of the disease. It will be interesting to note whether the meningococcus of such cases will react to the meningococcus present in the Belfast epidemic. This, of course, goes to suggest that the coccus on which Dr. Gordon bases his observations is not the meningococcus present in the Belfast epidemic.

May 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Work of Port Sanitary Authorities.

M. Clémenceau, Minister of the Interior, has recently obtained the signing of a decree by which the rights and duties of port sanitary authorities with respect to vessels arriving in a port are defined. In future every vessel arriving in a port of France or of Algeria must be visited by an officer of the sanitary authority before communicating with the shore, and if such officer has reason to suppose that there is a case of doubtful or febrile illness on board a visit must also be made by a medical officer, who will decide whether the illness is, or is not, one of those contemplated by Article 4 of the law of Feb. 15th, 1902, relative to the protection of the public health. When the medical officer has decided that the illness is of the former class it will be his duty to see that the regulations of the port sanitary authority are carried out with respect both to the vessel and to the persons on board; he will also invite the municipality in coöperation with the crew to remove the patients to the isolation hospital, and in carrying out the measures prescribed either by the law of 1902 or by the local sanitary regulations he may have recourse to the services connected either with the municipality or the department so far as one or other of them is respectively concerned.

Compressed-Air Illness.

At a meeting of the Medico-Chirurgical Society held on April 8th M. Berruyer gave an account of cases of compressed-air illness which had occurred among the men employed in various works in Paris since October, 1905. He explained that there was a material difference between the ill-effects experienced by divers (*scaphandriers, plongeurs*) and by *tubistes* or men engaged in subaqueous work, such as the foundations of bridges. This difference depended on the fact that divers descended to greater depths than were required for subaqueous constructional work, and further, that the conditions of diving were quite unlike those in which the *tubistes* passed into and out of the air-locks (*l'éclusage et le déclusage*). The illness affecting the *tubistes* was known also as caisson disease. It rarely occurred while the men were in the compressed air chambers but showed itself for the most part either during decompression or a few hours afterwards and had a direct relation to the rapidity of decompression, the duration of which ought not to be less than three minutes per atmosphere of extra pressure. The most usual symptoms were violent pains in the limbs, particularly in the lower limbs, sometimes accompanied by temporary paraplegia. M. Berruyer did not observe any instance of aphasia or word deafness or any indication of a cerebral lesion. Disorders of the gastro-intestinal tract, such as vomiting and obstinate constipation, were not infrequent. The respiratory organs might also be involved and cardiac arrhythmia, a symptom not previously recorded, had been observed on several occasions. The illness did not in general exceed 10 or 20 days and none of the cases terminated in death or permanent disablement.

Sad Death of a Medical Man.

Dr. Rabuel, a young medical man practising in Paris, has just died in extremely sad circumstances. Having under his care two patients, a woman and her son, suffering from diphtheria, and both of them dangerously ill, he applied his mouth to that of the child and used forcible suction for the purpose of removing false membrane which was choking the patient. He then employed the same means for the relief of the mother. The condition of both patients improved almost immediately, but two days afterwards the unfortunate medical man had to take to his bed and he died from diphtheria in a few hours. He was married two years ago.

The Campaign against Tuberculosis.

M. Albert Robin delivered a lecture on April 23rd at the Academy of Medicine on a very important and comprehensive scheme for the suppression of tuberculosis and the economic measures by which he has been trying to carry it out. His method is in opposition to the costly and incomplete sanatorium system which swallows up such large sums of money and can only effect the very hypothetical cure of a small number of tuberculous patients, and consists of a set of measures to which he has given practical trial in the anti-tuberculous department that he has established at the Beaujon Hospital; these are free consultations restricted to indigent persons, the distribution of medicines and clothing, educating tuberculous patients and their relatives, attending to the hygienic conditions of their homes and surroundings, sending early cases to the country, securing the admission to the Angicourt Sanatorium of cases likely to be benefited by treatment there, and giving medical and other aid to its patients after their discharge. It also provides for coöperation with different charitable associations of the tuberculous patients of which the department takes charge and which in return help the patients of the department in their several ways. This comprehensive plan has proved practicable without either establishing any new organisation or costing the public funds anything, owing to the great support which it has received from its well-wishers, and it has reduced the cost of effectively treating a tuberculous patient and looking after his surroundings to 7 francs 27 centimes[1] per head per annum, whilst the treatment of a single patient in the sanatorium varies in cost between 4 francs and 5 francs 90 centimes per day. The general adoption of this system in the Paris hospitals would admit of the treatment of 30,000 tuberculous patients a year in this manner and would need at the outside figure an annual sum of 300,000 francs, which is infinitely less than the enormous estimates required by all the other plans.

Death of Professor Poirier.

Professor Poirier has just died at the age of 51 years. For the last six months he had symptoms which made him fear the presence of gastric cancer, and he had taken gradually increasing quantities of morphine; recently he had been submitted to a "morphia cure" at a private institution, but acute failure of the hepatic and renal functions supervened and he rapidly died in coma. Professor Cornil performed a necropsy and found a small nodule of growth in the head of the pancreas but nothing in the stomach. The late professor succeeded Professor Farabeuf in the chair of Anatomy in the Faculty of Medicine, and he had a brilliant career, successively holding the posts of hospital interne, demonstrator of anatomy, *agrégé* professor, and surgeon to the hospitals; for three years he had been a member of the Academy of Medicine. He was a fine worker and leaves behind him a treatise on anatomy which is an important work. His qualities were brilliant and he was a man of wide acquaintance and of a charming personality. He was a representative member of the French medical deputation which visited London in 1904 and his eloquent speech on the occasion of the luncheon given by the Editors of THE LANCET will be fresh in the minds of those who heard him.

May 6th.

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[1] The sum quoted by our correspondent seems surprisingly small.—ED. L.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Sanatorium Treatment of Tuberculosis.

AT a recent meeting of the Society for Social Medicine and Hygiene, Dr. Grotjahn read a paper on the present crisis in the sanatorium movement. Alluding to the fact that the "committee for the erection of sanatoriums" had changed its name to that of "committee for the prevention of tuberculosis," he pointed out that a reaction against the activity formerly shown in establishing sanatoriums for tuberculous patients had now set in. If it was true that the examination and the treatment of such patients which used to take place exclusively in the consulting-room of the physician were carried out more accurately in a sanatorium, the work of the committee must be highly commended, and if the patients either recovered or if their ultimate breaking down in health was deferred for several years the money spent by the Landesversicherungs-Anstalt (invalidity insurance offices), which amounted to 434 marks (about £22) for each patient, was not laid out unprofitably. There were at present in existence 80 public sanatoriums with 7500 beds for consumptives of the working classes, 13 private sanatoriums with 2000 beds, and 13 sanatoriums for children with 500 beds. The statistical returns show, however, that the proportion of recoveries to admissions was 34 per cent. and that 31 per cent. of the patients became permanently disabled after only five years. It was not likely that these small numbers had any influence on the spread of tuberculosis as such. The number of recoveries was the less satisfactory, as only patients in the very first stage of the disease were received in the sanatoriums. Professor Koch has denied the practical value of sanatoriums, as the decrease of the mortality from tuberculosis had begun previously to the establishment of the sanatoriums; this decrease must therefore be attributable to some other cause or causes, such as, for instance, the improvement of the standard of living among the population. The sanatorium system was undeniably attended with certain advantages, one of these being the fact that the tuberculous patients were isolated from the healthy population, but this result ought to be obtainable at a much lower cost than was the case by the methods at present in use. Owing to the fact that the building expenses of the sanatoriums varied from 3000 to 11,000 marks (from £150 to £550) per bed without counting the outlay for rent, measures must be taken to obtain better results at less cost. Dr. Grotjahn recommended the erection of a great number of small asylums distributed through the country so that every town or considerable village should have one asylum. They ought to be furnished as plainly as possible; the patient after admission being not far from his usual place of residence might be able to work and might therefore remain an inmate of the asylum for a long time and even for life. These asylums for tuberculous patients should be fitted up and managed after the pattern of those existing in Norway for the reception of lepers. The Norwegian leper asylums were 20 in number, each containing from 10 to 15 beds; they were situated in country places and the style of living followed in them was similar to that of an ordinary family in moderate circumstances. The inmates of the proposed asylums for tuberculous patients ought to be provided with opportunities for employing themselves in some kind of work, either indoors or outdoors. The asylums should eventually be joined with agricultural colonies, as was the case in some lunatic asylums. The discussion on Dr. Grotjahn's address was postponed and it is expected that the views which he expressed will be combated by the advocates of the sanatorium system.

Professor von Bergmann's Successor.

It is announced that Professor Bier of Bonn has been appointed to succeed the late Professor von Bergmann as ordinary professor of surgery and director of the surgical clinic at the University of Berlin. Professor Bier is still a comparatively young man, having been born in 1861. Becoming qualified in 1885 he was for several years assistant to the celebrated Professor von Esmarch of Kiel and when this professor retired Dr. Bier was ppointed ordinary professor in the University of Greifswald s the successor of Professor Helferich who had gone t Kiel. In 1903 he left Greifswald for Bonn to replace the late Professor Schede. Professor Bier is known as the discoverer of some important surgical procedures. One of these is the employment of passive congestion, which was devised by him about ten years ago for the treatment of surgical cases of tuberculous disease, and he afterwards made use of it in the treatment of acute inflammation of all kinds. A full account of the method was given by him at the meeting of the German Surgical Congress in 1905,[1] and the innovation was fully approved by the great majority of the surgeons at the Congress held in the following year.[2] Professor Bier is, moreover, the discoverer of anæsthesia by intraspinal injections which has been generally adopted by surgeons. When an appointment to an ordinary professorship in a university has to be made the practice is that the medical faculty of the university in question recommends three candidates to the Government, placing their names in their presumed order of eligibility. In the appointment of a successor to Professor von Bergmann the names proposed to the Government were Professor von Eiselsberg of Vienna, Professor Bier of Bonn, and Professor Garré of Breslau. Professor von Eiselsberg, who is an Austrian and was formerly assistant to the late Professor Billroth, held an ordinary professorship at the University of Königsberg in Germany for several years, but he now declines to leave Vienna. The choice therefore fell on Professor Bier whose appointment will certainly meet with general approval.

May 6th.

Obituary.

EDWARD MARKHAM SKERRITT, M.D. LOND., F.R.C.P. LOND.,

SENIOR PHYSICIAN TO THE BRISTOL GENERAL HOSPITAL.

THE news of the death after a few days' illness of Dr. E. Markham Skerritt of Clifton came as a great shock to the large number of his friends and associates in the profession. He had enjoyed an unusual measure of health for many years and lived such an active and yet methodical and careful life that he was regarded as a peculiarly strong man.

Edward Markham Skerritt was born in Chelsea on Dec. 30th, 1848. He was at Mill Hill School for a short time but on his parents removing to Wokingham he was sent to Amersham Hall School, which had just then been moved to Caversham. On leaving school in 1866 he matriculated at the University of London and in October of that year entered for the arts course at University College and graduated B.A. at the University of London in 1868. He then entered the science department of the College and prepared for the Preliminary Scientific M.B., and in 1869 entered the medical department of the College. He graduated M.B., B.S. in 1873 and took the M.D. degree in 1874. Throughout his student course he was distinguished for his strength of character, independence of thought, and methodical habits. He gained many class prizes and distinctions and won the Atkinson-Morley surgical scholarship, a much-coveted honour, and was subsequently elected a Fellow of his College. At the University of London he carried off gold medals in physiology, in medicine, and in obstetric medicine. He obtained the Membership of the Royal College of Physicians of London in 1876 and was elected a Fellow in 1885. In 1897 he was chosen to deliver the Bradshaw lecture. At the time of his death he was a member of the Council of the College.

In 1875, a few months after obtaining his M.D. degree, he was elected a physician to the General Hospital, Bristol, and settled in consulting practice in Clifton. He held this office for 32 years and had been senior physician for many years. He devoted himself to the work of the hospital with his characteristic punctuality, precision, and thoroughness, and from the first the authorities of the hospital, his colleagues, and his students realised that he was a highly gifted physician whose opinion and teaching were of special value and his influence in the hospital was very great and equally beneficial. For many years he lectured in the school, first on pathology and later on medicine; he was dean of the school for a long period and only recently resigned this office. He took a leading part in the negotiations for the union of the medical school with University College, Bristol, and his sound judgment, clearness of perception, and firmness and courtesy in discussion were of great service.

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[1] THE LANCET, May 27th, 1905, p. 1455.
[2] THE LANCET, May 26th, 1906, p. 1492.

Dr. Skerritt threw himself with zest into the work of the local medical societies, regularly attended the meetings, often contributed papers and joined in discussions, and his intervention was always especially welcome as his remarks were the clear expression of well-thought-out conclusions. He had been president of both the Bristol Medico-Chirurgical Society and of the Bath and Bristol branch of the British Medical Association. He was one of the local secretaries when the British Medical Association visited Bristol and the success of the meeting was largely due to his unfailing industry and to his skill in arrangement as well as to his uniform genial courtesy. Of late years he devoted much time to the interests of the British Medical Association; he had held the responsible office of treasurer of the Association and at the time of his death was one of its vice-presidents. He was a very regular attendant at meetings of the council and of various committees, and his opinions carried great weight, for he was eminently wise in counsel. He was a member of the Board of Advanced Medical Studies of the University of London and attended its meetings regularly; his opinion was always highly valued, as he spoke from wide experience and had a breadth of view of professional matters that struck all who served with him on committees.

Dr. Skerritt quickly acquired a considerable practice and for many years he had to limit himself to the work of a consultant, except in the case of a few old patients. Practitioners in Bristol and in an ever-widening area around found him always helpful, considerate, and painstaking. He gained in a remarkable degree the complete confidence of his brethren and of his patients and his removal leaves a correspondingly great sense of loss.

Dr. Skerritt was a keen sportsman; for many years he regularly rode to hounds and spent his summer vacations on Exmoor in order that he might enjoy the stag-hunting. He was an excellent horseman, combining care and courage, and he was always welcome in any hunting field. He was a life-long abstainer from alcohol and tobacco. In the early days of his practice, under the influence of the teaching which he had received at his hospital, he prescribed alcohol to many of his patients, but as his experience increased, we are informed, he ordered it less and less and for many years used it very sparingly indeed.

He had all his life enjoyed robust health and took a keen delight in a simple healthy life, with abundant exercise, and perhaps he had come to regard himself as more than usually capable of resisting ills that were serious to others. Until this winter he had never been known to lie up for illness of any kind, but in November last he was laid aside by an attack of influenza from which he seemed to recover completely. On Sunday, April 21st, he had a slight shiver; unfortunately he continued doing much of his work on the 22nd and 23rd. On Wednesday, the 24th, he was compelled to keep his bed, for his temperature was 105° F.; in the early hours of the 26th he had a very grave attack of palpitation and heart failure; he was then found to have pneumonic consolidation of the left lung. In spite of all that the most devoted and skilful attention could do he succumbed on April 29th, the weakness of his heart being the gravest feature of the illness.

Dr. Skerritt married in 1875 the eldest daughter of Mr. John Heelas, then living at Wokingham, now of White-knight's Park, Reading. He had one daughter, who died after a few hours' illness in 1905. He never got over this sorrow; and although he went on with his work and devoted himself with unremitting care to his wife, those most intimate with him realised that the brightness had passed from his life. The funeral took place on May 2nd, amid scenes of the most widespread sympathy and sorrow. The service was held in St. Paul's Church, Clifton, which was thronged with a sorrowing congregation, which included nearly all the medical men in Bristol and many prominent citizens, who thus testified to the respect in which Dr. Skerritt was held. The interment was at the Redland Green Cemetery, at which also a great crowd of sympathetic mourners had gathered.

Dr. Skerritt was no ordinary man. Rather slight in stature and without a particle of self-assertiveness he impressed all who came in contact with him with his force of character, and he equally attracted them by his unfailing geniality and bright humour, which made him always a welcome companion. He had great intellectual gifts; he had trained himself to be methodical, painstaking, and accurate almost to a fault. These qualities made him a skilled physician and a wise counsellor. Beyond that, however, he was a man of sterling uprightness and of unimpeachable sincerity; he was a man to be trusted. But over and above that, behind a nature reserved and shy he hid a heart of the strongest and truest affection, and so it seemed to be a necessity to him to be a friend to all who sought his aid and he ever took a keen pleasure in helping in the best way he knew all who would let him. And so it is that his death is felt in a very wide circle as a loss not only of a clever trusted physician but of a true and wise friend.

ROBERT HAMILTON RAMSAY, M.D., C.M. GLASG.

Dr. R. H. Ramsay died at his residence, Duncan House, Torquay, on May 4th, after a short illness from cerebral hæmorrhage. The deceased, who was born in Edinburgh in 1824, was the son of the late Mr. Peter Ramsay, D.L., banker, and the Hon. Susan Hamilton, daughter of Lord Belhaven and Stenton. He was educated at the Universities of Edinburgh and Glasgow and graduated as M.D. and C.M. of the latter university in 1852. At the Glasgow Royal Infirmary he held the appointment of house surgeon to Lord Lister during the period immediately preceding the introduction of antiseptic methods. In 1864 he went to Torquay and in 1865 entered into residence at Duncan House, where he spent the remainder of his life. Passionately fond of horticulture Dr. Ramsay formed at Duncan House one of the most attractive private gardens in the West of England and his fine collection of sub-tropical plants have been much admired; his fan palms from China are the only instances in this country of their ripening seeds in quantity. He had had the honour of receiving Her Majesty Queen Victoria, and the Princesses Louise, Victoria, and Maud, and amongst other distinguished personages who have visited Duncan House have been the Grand Duchess Catherine of Russia and Lord Lytton. For 40 years he held the appointment in Scotland of Purse-bearer to the Lord High Commissioner who represents the Sovereign in the general assembly of the Church of Scotland. Dr. Ramsay was honorary consulting physician to the Erith House Institution, Torquay, for ladies of limited means with diseases of the chest. He had been for 14 years president of the Torquay Gardeners Association and for 30 years was president of the Torquay Football Club. Dr. Ramsay will be much missed in Torquay, where he was one of the oldest and most esteemed of the residents, and his great generosity to the poor will long be held in remembrance.

FREDERICK WILLIAM STORRY, M.R.C.S. ENG., L.R.C.P. EDIN.

THE intelligence of the death of Mr. F. W. Storry has been received throughout Stroud and the district with feelings of the greatest sorrow. His health had been indifferent for a considerable time and in the second week of March, accompanied by Mrs. Storry, he proceeded to the Riviera, hoping that complete rest and the warm sunshine would enable him to recuperate. At first he seemed to gain in strength but the improvement was not maintained and on March 31st he passed peacefully away at the Hôtel du Louvre, Mentone, where he was staying.

Mr. Storry was the son of the late Colonel Storry of the Bank, Howden, East Yorkshire, and was born on March 13th, 1856. His professional education was obtained at the Leeds School of Medicine, and he was admitted M.R.C.S. Eng. in 1876, taking the diploma of L.R.C.P. Edin. in 1880. He was house surgeon to the Stroud General Hospital from 1879 until October, 1881, when he resigned to join in partnership the late Dr. G. R. Cubitt of Stroud. A month later he was appointed honorary surgeon to the Stroud General Hospital. In the welfare of this institution he at all times took the keenest interest and at the time of his death he was the senior surgeon. Gifted with a natural enthusiasm for surgery, he was quick to adopt the principles of the aseptic treatment, then in its infancy, and soon gained the well-deserved reputation of being a bold and successful operator. He won the confidence of his patients in a remarkable degree and became one of the busiest and most hard-working practitioners in the district. He was a past President of the Gloucestershire branch of the British Medical Association and a member of the Council at the time of his death.

A man of fine physique and possessed of a genial and hospitable temperament, he had made a wide circle of friends, by all of whom his untimely death will be long and keenly felt, and the greatest sympathy will be extended to Mrs. Storry and the son and daughter whom he leaves.

The funeral took place at the cemetery at Mentone, a most beautiful spot, and the last resting place of many English who have died away from their native land.

ROBERT HUGHES, M.D. St. And., M.R.C.S. Eng., L.S.A.

Penmaenmawr has just lost one of its most prominent inhabitants in the death of Dr. Robert Hughes, which took place on April 24th. He was well and widely known throughout North Wales. He was a son of the late Mr. Hugh Hughes, quarry proprietor, Trefriw, and was one of four brothers, three of whom were members of the medical profession. He belonged to a literary family and was first cousin of the Rev. Edward Jones, late rector of Llanfaircaereinion, editor of the Llanrwst edition of Goronwy Owen's works, and writer of the brilliant critical essay which forms an introduction to that volume.

Dr. Hughes, who was in his eighty-second year at the time of his death, received his professional education in Dublin. He took the diplomas of L.M. Dub. in 1856, M.R.C.S. Eng. in 1858, and L.S.A. in 1859; in 1862 he graduated as M.D. at the University of St. Andrews. He was appointed surgeon to the Penmaenmawr quarries nearly half a century ago but resigned the appointment when he retired from practice some ten years ago. He had in the prime of life a very extensive and important practice and attended some of the leading men of the age, such as the late Right Hon. W. E. Gladstone, and the late Archbishop Thompson, when staying at Penmaenmawr in the summer season. He was a skilful operator and the author of many literary contributions on various subjects. As a medical man he was looked upon as a leading practitioner in North Wales. It would be impossible to exaggerate the kindness of his heart in dealing with the poor in his profession, but his interest was by no means confined to his calling. He was an ardent Welshman and was possessed of an accurate knowledge of the Welsh language as well as of an extensive acquaintance with Welsh history and Welsh literature. For many years he was a member of the local board of which he filled the posts of chairman and vice-chairman and many years ago occupied the position of President of the North Wales branch of the British Medical Association. He possessed striking individuality of character and formed his views on most subjects independently of party ties and traditions. He was a strong, tender-hearted, cultured, and gifted man and his death will be long and keenly felt by his many friends. The funeral, which took place on April 27th, was a large and representative one and he was laid to rest amidst universal manifestations of sympathy and respect. A large number of beautiful floral tributes were sent from different parts of the country. On the following day the vicar (Rev. Canon Jones) in the course of his sermon made a touching reference to the deceased and paid an eloquent tribute not only to the late Dr. Hughes but to the medical profession in general.

THE ROYAL SOCIETY CONVERSAZIONE.

When a council of Britain's leading scientific men decides upon allowing a temporary scaffolding to be erected in its almost sacred meeting room in order to demonstrate an invention it may safely be concluded that there must be something highly important about that invention. This decision had the effect on Wednesday at the conversazione of the Royal Society of directing the attention of the visitors almost exclusively to one exhibit, although the occasion was one on which the exhibits in general were more than usually attractive. The topic of the evening was Mr. Louis Brennan's Mono-railway. In the inventor's own words, each vehicle on this system is provided with automatic stability mechanism which endows it with the power of maintaining its equilibrium upon a single rail either while standing still or travelling at any rate of speed. The mechanism consists of two gyroscopes (or fly-wheels the axis of which can turn in any direction) revolving in opposite directions. The "precession" or top-like motion being accelerated produces a turning couple at right angles to the rail. The principal effect of the gyroscope is that when attached to a moving body it resists change of direction and preserves absolute equilibrium. It would be difficult to enumerate the applications of this principle, but there seems to be little doubt that it will soon be practically demonstrated in regard to railways, motors, flying machines, and other methods of locomotion. Already we know how the gyroscope may be applied for preventing the rolling of ships at sea, and working models were shown in the secretary's room which clearly demonstrated this particular application of this most fascinating principle of mechanics.

Coming to exhibits which more or less relate to medicine in some of its branches we may mention the excellent skiagraphs shown by Dr. Robert Knox and Mr. G. Pearce. The examples illustrated the advantages of reduction in exposure which secures increased definition, and the outlining of the organs while the patient is not submitted to an overdose of the x rays. Close by were some very attractive specimens of pure fused silica ware made at a temperature of 2000° C. in the electric furnace. When polished it shows a beautiful pearl-like lustre and resists the action of extreme changes of temperature, while it threatens to replace platinum in chemical operations since it is unaffected by acids. Mr. W. A. Douglas Rudge's exhibit attracted considerable attention; it was devoted to proving that the action of radium and other salts on gelatine culture medium was purely chemical, a kind of cellular growth apparently forming which, after all, was due to the production of an insoluble precipitate with the sulphuric acid usually present in commercial gelatin. These experiments seem to dispose completely of the idea of "radiobes." Sir James Dewar showed that the motion of the Crookes radiometer was arrested in very high vacua, while Dr. J. T. Bottomley and Mr. F. A. King conducted some beautiful experiments with vacuum gold leaf electroscopes illustrating mechanical temperature effects in rarefied gases. On the middle bench in the library the Hon. C. A. Parsons exhibited some very fine photographs of microscopic diamonds obtained from pure iron heated in a carbon crucible in an electric furnace and rapidly cooled. On the same table Mr. H. B. Fantham exhibited microscopic preparations of *Spirochæta* (trypanosoma) *balbianii* from the crystalline style and intestine of the oyster, while Professor W. B. Bottomley's exhibit dealing with the fixation of nitrogen by leguminous and other plants proved to be very attractive. Plants were shown demonstrating the effect of artificial inoculation. In one experiment on certain soil in which inoculation was adopted the yield of beans, peas, &c., was 12 tons 5 cwt., against 7 tons 1 cwt. when inoculation was not applied.

The Right Honourable the Lord Rayleigh, O.M., D.Sc., D.C.L., the President, received the visitors. The rooms were crowded and presented a most animated scene, but the word "gyroscope," was heard most.

Medical News.

University of Durham (Faculty of Medicine).—At the Convocation held on April 27th the following degrees and diploma were conferred:—

Doctor in Medicine.—Robert Simpson Hindmarch, M.B., B.S. Durh.; Andrew Banks Raffle, M.B., B.S. Durh.; Norcliffe Roberts, M.B., B.S. Durh.; Frederick Riddle Scott, M.B., B.S. Durh.; and Alan Ayre Smith, M.B., B.S. Durh.

Doctor in Medicine for Practitioners of 15 years' standing.—Edwin Alfred Bennett, L.R.C.S.E., L.S.A.; Joseph Buck, L.R.C.P. & S.E., L.F.P.S.G.; John Martin Coates Cole, M.R.C.S., L.M., L.K.Q.C.P.I.; Charles Thomas Thornton Comber, M.R.C.S., L.R.C.P.; Alexander Cuffe, F.R.C.S.I., L.A.H.; Harry Legh de Legh, M.R.C.S., L.R.C.P.; William Charles Ellis, L.R.C.P. & S.E., L.F.P.S.G., L.S.A.; Charles Julian Horner, M.R.C.S., L.R.C.P., L.S.A.; Timoth Leahy-Lynch, L.R.C.P. & S.E., L.F.P.S.G.; Thomas McMillan, L.R.C.P. & S., L.F.P.S.G.; Edward Posnett, M.R.C.S., L.R.C.P., L.S.A.; Colamarsnacuppl Bangalore Ramarao, B.A., L.M. & S. Madras; Howard Slater, M.R.C.S., L.R.C.P., L.S.A.; Peter Campbell Smith, L.R.C.P. & S., L.F.P.S.G.; David Thomas Wylie, L.R.C.S.I., L.M.

Bachelor in Medicine (M.B.).—Harold Henry Blake, St. George's Hospital; Gilbert Iliffe Cumberlege, William Morton Emmerson, L.S.A., and Sydney Havelock, B.Sc., College of Medicine, Newcastle-upon-Tyne; Thomas Davidson Miller, M.R.C.S., L.R.C.P., St. Thomas's Hospital; David Ranken, Howard Bewlay Stephenson, L.R.C.P. & S.E., L.F.P.S.G., Norman Spedding, and Richard Woodward Swayne, College of Medicine, Newcastle-upon-Tyne; and Herbert Hoyle Whaite, L.R.C.P. & S.E., L.F.P.S.G., Birmingham University.

Bachelor in Surgery (B.S.).—Harold Henry Blake, St. George's Hospital; Gilbert Iliffe Cumberlege, William Morton Emmerson, L.S.A., and Sydney Havelock, B.Sc., College of Medicine, Newcastle-upon-Tyne; Thomas Davidson Miller, M.R.C.S., L.R.C.P., St. Thomas's Hospital; David Ranken, Howard Bewlay Stephenson, L.R.C.P. & S.E., L.F.P.S.G., Norman Spedding, and Richard Woodward Swayne, College of Medicine, Newcastle-upon-Tyne; and Herbert Hoyle Whaite, L.R.C.P. & S.E., L.F.P.S.G., Birmingham University.

Diploma in Public Health.—Ernest George Dryden Benson, L.R.C.P. & S.E., L.F.P.S G.

University of London: University College.—A series of lectures and demonstrations was commenced on Wednesday, May 8th, in the physiological department at University College, London, and will be continued on Wednesday afternoons at 5 P.M. The lecturer (Dr. W. Page May) announces his subject as the Arrangement and Functions of Certain Structures in the Central Nervous System, and the syllabus is as follows:—

Lecture 1. May 8th.—On the Peripheral Sensibilities, Spinal Ganglia, and the Commencement of the Afferent Path.

Lecture 2. May 15th.—The *Spinal Cord.* Its Various Tracts and Centres. Localisation.

Lecture 3. May 22nd.—The Medulla Oblongata.

Lecture 4. May 29th.—The Pons Varolii.

Lecture 5. June 5th.—The Cerebellum. Its Structural Arrangement, Connexions, and Functions.

Lecture 6. June 12th.—The Mid-Brain and Corpora Quadrigemina.

Lecture 7. June 19th.—The Cerebral Cortex. Motor and Sensory Areas and Functions.

Lecture 8. June 26th.—The Integrative Action of the Nervous System. Summary.

The Mercers' Company lectures on the Internal Media of the Body and their Relation to the Tissues will be given in the same department by Professor Ernest H. Starling, F.R.S., on Fridays at 5 P.M., commencing to-day, Friday, May 10th. The following points will be dealt with, according to the published schedule of the lectures:—

1. The watery content of protoplasm and the osmotic relationships of cells.
2. The internal fluid media of metazoa. Cœlomic fluid, blood, lymph.
3. The intake of fluid by intestines (and skin).
4. The supply of fluid to the tissues. Lymph and its functions.
5. The production of tissue fluid and lymph.
6. The absorption of tissue fluid and lymph.
7. The output of fluid from the body. The secretion of urine.
8. The regulation of the molecular concentration of the body fluids.
9. The regulation of the total fluid contents of the body under varying conditions, such as bleeding, transfusion, muscular exercise, heart failure, high altitudes, intoxications, &c.

These lectures are open to all students of the London medical schools and to medical men on presentation of their cards.

Longevity.—Mr. James Carne, the parish clerk of St. Columb Minor, Cornwall, celebrated the 101st anniversary of his birthday on May 3rd.—At the last meeting of the Chard (Somerset) board of guardians it was reported that a recipient of outdoor relief had just attained the age of 100 years.

Royal Institution.—A general monthly meeting of the members of the Royal Institution was held on May 6th, Sir James Crichton-Browne, treasurer and vice-president, being in the chair. Mr. J. H. Morrell, Dr. O. Oberländer, and Mr. F. L. Pattisson were elected members. It was announced that the President had nominated the following vice-presidents for the ensuing year: The Right Hon. Lord Alverstone, G.C.M.G., Sir Benjamin Baker, K.C.B., Dr. Donald W. C. Hood, C.V.O., Sir Andrew Noble, K.C.B., Mr. Alexander Siemens, the Right Hon. Sir James Stirling, Sir James Crichton-Browne (treasurer), and Sir William Crookes (honorary secretary).

The Health of the People.—Representatives from more than 30 societies interested in the question of national health were present at a meeting held at the Royal United Service Institution on May 2nd, when the Bishop of Ripon presided. In proposing

> That this meeting expresses its sympathy with the efforts now being made to make it illegal for any child under 14 to be taken into, or allowed to enter, a public-house,

the Rev. H. Russell Wakefield said that children must be protected from the ignorance of their parents, while the training and treatment of children in school should be such that when they became parents they in their turn would look after and care for their children in a proper manner. Mrs. Bramwell Booth, who seconded the motion, said that good fathers and mothers could not be made by law, but what the law laid down came at last to be acquiesced in by the masses. The motion having been carried, the chairman, in reply to a vote of thanks, said that legislation on the subject would be valuable because it would set a standard of responsibility before the people and also form an expression of the awakening of the public conscience.

Diphtheria in Tiverton.—At the meeting of the Tiverton (Devon) rural district council held on April 24th it was reported that the expenditure in connexion with the recent epidemic of diphtheria in the village of Bradninch amounted to £173. Medical fees amounted to £91 and the cost for the examination of "swabs" was £60.

Presentation to a Medical Practitioner.—On April 23rd the members of the Weston-super-Mare branch of the St. John Ambulance Brigade presented Mr. Arthur James Cary, L.R.C.S., L.R.C.P. Irel., with a gold-mounted fountain pen in appreciation of his services as honorary lecturer.

An Electric Motor Ambulance Service.—On Monday next, May 13th, Alderman Sir Alfred Newton, chairman of the Police Committee of the Corporation of London, will open an electric motor ambulance service—a circumstance which is of considerable interest to the readers of The Lancet. The ceremony will take place at 3 P.M., on ground belonging and near to St. Bartholomew's Hospital, the entrance being in King Edward-street, Newgate-street.

Hospitals and the Rates.—At the annual meeting of the governors of the Alexandra Hospital for Children with Hip Disease, Queen-square, Bloomsbury, London, W.C., held on May 6th, under the presidency of the Duchess of Albany, the Mayor of Holborn, Mr. W. D. Rawlins, K.C., referred to the question of hospitals and the rates. He fully approved of the principle of exempting hospitals from the payment of rates. The matter rested with Parliament, but any measure brought forward would have the full sympathy of his council.

Medico-Psychological Association.—At a meeting of this association to be held at 11, Chandos-street, W., on May 16th, at 3 P.M., the treasurer will make a short statement on the Workmen's Compensation Act (1906) and move the appointment of a committee to consider the rates proposed to be charged by insurance offices in respect of asylum officers, to collect evidence as to the special risks attaching to service in asylums, and to take such action in making representations as it may think fit. After the meeting members will dine together at the Café Monico, Piccadilly Circus, at 7 P.M., evening dress being optional. Tickets (exclusive of wine), 7*s.* 6*d.*, can be obtained by applying to Dr. C. Hubert Bond, honorary secretary, 11, Chandos-street, W.

Tottenham Hospital.—The opening of the new wards and operating theatre of Tottenham Hospital was performed on May 7th by the Prince of Wales who was accompanied by the Princess of Wales. The Prince also consented, at the request of the governors, to allow the name of the hospital to be changed to "The Prince of Wales's General Hospital, Tottenham." The hospital was established in 1869 and provided 73 beds; at the present time it accommodates 120 beds. The extensions just completed consist of a new wing of three floors, with an operating theatre and adjuncts above. The architects, Messrs. Rowland Plumbe and Harvey, received hearty congratulations on their work, considerable attention being attracted by the fire-resisting materials of which the buildings have been constructed. The rounded angles between the floors and the walls are formed in Diespeker's mosaic and the floors are finished with cement and covered with linoleum. The sanitary spurs to the wards are cut off by means of ventilating corridors which are treated as bridges with ventilating openings over. The wards are heated by means of Teale's stoves and in some cases have radiators intended to be used in extremely cold weather. The operating theatre, the surgeon's room, and the anæsthetising room have marble mosaic floors continued up with rounded skirting around the walls for a height of about 5 feet as a dado. The roof of the theatre is so constructed that the ridge carries the weight, thereby avoiding the use of tie rods that would collect dust. The fittings in the theatre stand in nearly every case quite clear of the walls. The fittings over the sinks are like those at the London Hospital and give hot or cold or tepid water at will. The theatre is so arranged that the walls and floors can be washed down with a hose.

THE King has sent a present of linen to the Chelsea Hospital for Women.

WESTERN COUNTIES IDIOT ASYLUM, STARCROSS.—The annual report of this institution for the year 1906 shows that the number of patients at the end of the year was 272. During the year 58 cases were admitted, 58 were discharged, and two died. Among the patients there were 15 private cases, the remainder being paupers. The average weekly cost was 11*s.* 9*d.* The Commissioners in Lunacy in their report state "that the success attained by the patients reflects great credit on those who are responsible for their training."

FOLKESTONE BOROUGH COUNCIL AND THE NATIONAL REGISTRATION OF PLUMBERS.—At the last meeting of the Folkestone borough council a letter was read from the Worshipful Company of Plumbers requesting the corporation to appoint a representative to take part in a proposed deputation to the Local Government Board to urge the Government to pass an Act for securing the competency, certification, and registration of plumbers under proper statutory authority. It was resolved:—

> That this council approves of the passing of such a Bill and that Alderman Penfold be appointed as the representative of this corporation to take part in the proposed deputation.

THE CHEMISTS' EXHIBITION.—This annual exhibition, which was inaugurated 12 years ago, continues to secure the support of the principal representatives of the drug and allied trades. It enjoys, in fact, a bigger patronage, both in regard to exhibitors and visitors, every succeeding year and the organisers may be congratulated on having set on foot a scheme which has met with such appreciation and success. As was the case last year, the exhibition was held at the Royal Horticultural Hall, Vincent-square, Westminster, and on Monday last Mr. Idris, M.P., declared the exhibition open after making a few suitable remarks in which he pointed out that the scheme was supported, not only by druggists and pharmacists in Great Britain, but by many from the colonies also. On the present occasion there were nearly 100 exhibitors, the result being that there was a good deal that was interesting and instructive to see. Needless to say, the medical profession was well represented amongst the visitors who found presented for inspection many objects of interest connected with medicine and pharmacy. Advances in methods of administration formed a feature of the exhibits and some of the most imposing stalls were reserved for a demonstration of organo-therapeutic products. The exhibition closes to-day (Friday).

WEST AFRICAN MEDICAL SERVICE.—Mr. W. H. Langley, C.M.G., deputy principal medical officer in Northern Nigeria, has been selected for appointment as principal medical officer of the Gold Coast, *vice* Dr. W. R. Henderson, C.M.G., retired. Dr. J. P. Fagan, senior medical officer in Southern Nigeria, has been selected for promotion to deputy principal medical officer in Northern Nigeria. Mr. A. H. Hanley, C.M.G., principal medical officer in Sierra Leone, has retired on pension from Feb. 16th, 1907. Mr. P. M. Forde, senior medical officer in the Gambia, is promoted to be principal medical officer in Sierra Leone. Mr. T. Hood, senior medical officer in Sierra Leone, is transferred to the Gambia. Dr. R. H. Kennan, medical officer in the Gold Coast, is promoted to be senior medical officer in Sierra Leone. Dr. C. R. Chichester, senior medical officer in Southern Nigeria, has been selected for transfer to Northern Nigeria. Dr. St. G. Gray, medical officer in Sierra Leone, has been selected for promotion to senior medical officer in Southern Nigeria on the transfer of Dr. C. R. Chichester. Mr. A. T. Latchmore, medical officer in Sierra Leone, is retired from the service on the ground of ill-health, receiving a gratuity. Dr A. N. de Gruchey, medical officer in Southern Nigeria, and Dr. J. Tichborne, senior medical officer in Northern Nigeria, are also retired on the ground of ill-health. The following gentlemen have been appointed to the staff, to date from April 27th:—Dr. H. O'H. H. May (Gold Coast), Dr. A. W. Atkinson (Gold Coast), Mr. W. N. Alexander (Sierra Leone), Mr. J. M. O'Brien (Gold Coast), Dr. G. E. H. Le Fanu (Gold Coast), Mr. R. W. Orpen (Sierra Leone), Dr. J. M. W. Pollard (Northern Nigeria), Dr. C. W. McLeay (Northern Nigeria), and Mr. T. M. R. Leonard (Southern Nigeria). The death is reported of Dr. R. E. Little, on March 11th, and of Dr. J. A. Gordon White, on March 16th, both medical officers in Southern Nigeria.

THE HOMES FOR INEBRIATES ASSOCIATION.—The twenty-third annual report of the Dalrymple Home at Rickmansworth, where the work of the Homes for Inebriates Association is carried out under the superintendence of Mr. F. S. D. Hogg, should be an encouraging one for the supporters of the association. Mr. Hogg, while pointing out that he must necessarily lose touch with many of his patients after their discharge, says that during a period of eight years out of 300 patients about 62 per cent. are doing well, 17 per cent. have improved, and 20 per cent. show no improvement. Mr Hogg, commenting upon the causes of inebriety, makes the interesting remark that the diathesis which is connected with a tendency to indulge in alcohol is more frequently transmitted through the mother, while he also finds that about 60 per cent. of the admissions to the Dalrymple Home state that the origin of their trouble was "sociability and the influence of occupation or of no occupation." Donations and subscriptions may be sent to the chairman, Rev. Canon Duckworth, 6, Little Cloisters, Westminster, London, S.W., or to the secretary, Court Chambers, 173, Marylebone-road, London, W. The accounts show a net profit on the year's working, 1906–07, of £333.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Society of Apothecaries of London Bill.

THE Society of Apothecaries of London Bill has passed its second reading in the House of Commons. It has already passed through all its stages in the House of Lords.

Royal Army Medical Corps (Volunteers).

In the annual return on the volunteer corps of Great Britain it is stated that the establishment of the Royal Army Medical Corps (Volunteers) was 3959 on Nov. 1st, 1906 The strength of the corps at the same date was 3649 of all ranks and this total is made up of 125 officers and 3432 non-commissioned officers and men along with 92 non-efficients.

The Royal Sanitary Institute.

The Royal Sanitary Institute has petitioned the House of Commons in favour of the Butter and Margarine Bill, the Infant Life Protection Bill, the Public Health Bill, and the Public Health (Regulations as to Food) Bill.

HOUSE OF COMMONS.

WEDNESDAY, MAY 1ST.

Emigrants and Vaccination.

MR. BOWLES asked the President of the Board of Trade whether he was aware that, in a circular issued by the Emigrants Information Office, intending emigrants to Canada were informed that if they travelled to Canada as steerage passengers they would be required, on arrival, either to produce a vaccination certificate or to submit to vaccination or to compulsory detention for observation in a quarantine station, while if they travelled otherwise than by steerage no such requirements would be made; and whether this was a correct statement of the Canadian regulations on the subject.—Mr CHURCHILL (who replied) said: The statement in question is substantially correct, though the words "Passengers other than steerage are not examined" might be qualified by adding the words "as a rule."

The Royal Commission on Vivisection.

Sir PHILIP MAGNUS asked the Secretary of State for the Home Department whether he could state when the Royal Commission on Experiments on Living Animals for the purposes of Research was likely to report.—Mr GLADSTONE answered: The inquiry is not sufficiently advanced to enable an answer to be given to this question.

The Chief Medical Officer of the Post Office.

Mr. HUNT asked the Postmaster-General whether he would explain why the salary of the chief medical officer of the Post Office had been raised from a maximum of £1000 per annum, with an allowance of £100 per annum, to a salary of £1200 per annum, seeing that before the Select Committee on Post Office Wages the chief medical officer admitted that he received salaries from two other institutions for medical attendance.—Mr. SYDNEY BUXTON furnished the following written reply. The salary of the chief medical officer has been raised because it was considered that as it formerly stood it did not afford adequate remuneration for the duties of the post. A proposal for this increase was first made to the Treasury in 1903. It was renewed and agreed to in February, 1906. I understand that when the chief medical officer was appointed to his present post he received permission to continue to hold the two appointments referred to, which do not interfere with the performance of his official duties

Public Health in Egypt.

Dr. RUTHERFORD had several questions on the notice paper relating to such matters as the stagnant residue in the bed of the Ismailia

Canal and the drainage and sewage in the villages and towns of Egypt.—Sir Edward Grey said: The questions put by the honourable Member relate to questions of Egyptian internal administration. And while I have every desire to encourage sanitary reform I must point out that this is one of the matters which receive constant attention from the Egyptian Government and that the direct interference of His Majesty's Government in matters of administrative detail is both impracticable and undesirable. As the honourable Member is no doubt aware, the progress of social reform in every country must be gradual and particular measures must depend upon the resources of the State.

Medical Officers in County Kerry.

In answer to Mr. Thomas O'Donnell, Mr. Birrell wrote: The salaries paid to medical officers in the unions of the county Kerry for the years ended March, 1897, and March, 1906, are as follows:—

	Year 1897.	Year 1906.
Cahirciveen	£440	£514
Dingle	640	552
Kenmare	440	440
Killarney	703	730
Listowel	600	722
Tralee	755	785

One-half of the amounts in the first column was recouped from the Parliamentary grant. Of the sums of £730 and £785 given in the second column, one-half was in each case recouped from the Local Taxation Account and in the remaining cases the amount recouped was a little less than one-half, owing to the limitation imposed by Section 6 (1) of the Local Government (Ireland) Act, 1902. In the year ended March, 1906, the following additional payments were made for remuneration of substitutes for medical officers who were absent on vacation, and recoupment of one-half of these amounts was allowed under Section 5 (1) of the Act of 1902:—

	£	s.	d.
Cahirciveen	42	0	0
Dingle	8	8	0
Kenmare	50	8	0
Killarney	29	0	0
Listowel	134	8	0
Tralee	100	16	0

The balance remaining in all the cases referred to above was defrayed out of the rates. It may be added that no portion of the agricultural grant is directly payable to relieve any specific union charge but is applied in aid of the rates on agricultural land generally.

The Maintenance of Lunatics.

Mr. William Pearce asked the President of the Local Government Board whether he would introduce legislation extending the grant of 4s. weekly now made under the Local Government Act, 1888, in respect of each lunatic maintained in a lunatic asylum, to imbeciles and lunatics certified for treatment in workhouses.—Mr. John Burns answered: Some extension of the grant in the direction desired was recommended by the Royal Commission on Local Taxation, subject to certain conditions. The matter will receive consideration when the question of local taxation is dealt with by the Government, but I could not promise to introduce legislation with regard to it at the present time.

Medical Supplies for Irish Guardians.

In the course of the debate in Committee of Supply on the Vote for the Irish Local Government Board,

Mr. Boland called attention to the contracts which Irish boards of guardians and other authorities made for supplies, including the supply of medicines for workhouses. Some of these boards had tried to encourage Irish industries by accepting tenders for supplies which were not always the lowest. He contended that it should not be in the power of the Local Government Board auditor to upset the tender although it was not the lowest sent in.

Mr. Birrell, in the course of his reply, said that with regard to medical supplies it had to be remembered that under Acts of Parliament half the cost of the drugs that were supplied to workhouses by boards of guardians in Ireland was repaid out of Imperial funds. Therefore Parliament had an interest in seeing that extravagant prices were not paid for drugs and medical supplies. Because boards of guardians got half the cost back there was not the same check that the ratepayers would get value for their money. It had been brought to the notice of the Local Government Board that boards of guardians preferred to buy the drugs from Irish firms, forgetting the fact that drugs were sent from every part of the world. The firms in Ireland who supplied them were only middlemen. In the case of drugs and medical supplies therefore it was necessary that the Local Government Board for Ireland should take a more strict view than in the case of other supplies. He did not think that the Local Government Board should relax its hold over boards of guardians. They did require to be looked after because of the fact that, although they were acting in a spirit of friendliness, acts of irregularity had not only been alleged but had been proved against them. He did not say that these were cases of dishonesty, but they were cases of favouritism, which cast a burden on the ratepayers. That ought not to be the case and whoever had control of the Irish Local Government Board would be playing an unpatriotic part if they did not maintain a sharp control over boards of guardians in all parts of the country. If this was done he was sure that in a few years a proper spirit would be developed in these bodies.

Mr. Hugh T. Barrie did not think that there was any more important contract accepted by boards of guardians than the contract for medical supplies. It was extremely important that the drugs should come from really responsible firms. However, he believed that firms in Belfast would certainly compete with any wholesale drug firms, either in Liverpool or in London. He thought that the practice in England had been to accept the lowest tender, because there was the safeguard that the medical officer would see that the guardians received what they had contracted to get. He thought that the Chief Secretary to the Lord Lieutenant had taken up a proper attitude in this important matter.

The subject then dropped and the vote was ultimately agreed to.

Monday, May 6th.

The Board of Education and a Medical Department.

Mr. Wedgwood asked the President of the Board of Education on what expert opinion Clause 10 of the Education (Administrative Provisions) Bill was drafted; and whether this expert opinion reported as well upon the necessity of establishing a permanent medical department at the Board of Education, and, if so, what their view of such a medical department was.—Mr. McKenna answered: Clause 10 of the Administrative Provisions Bill follows precisely the wording of the similar clause of last year's Bill as amended in Parliament. A considerable volume of expert opinion bearing on the subject will be found in the reports of the Inter-Departmental Committees on Physical Deterioration and on the medical inspection and feeding of school children which have been already published. I do not think the matters referred to in the last paragraph can be adequately dealt with by means of question and answer. There will be an opportunity for discussing them in committee on the Bill.

Tuesday, May 7th.

Declarations under the Vaccination Bill.

Mr. Dundas White asked the President of the Local Government Board whether it was intended that any, and, if so, what, fees shall be chargeable by commissioners of oaths and other officers in respect of declarations made under the recently introduced measure dealing with vaccination; and whether he would consider the desirability of inserting in the Bill an express provision with regard to this.—Mr. John Burns replied: The provisions of the existing law with regard to fees in respect of the statutory declarations will apply to declarations for the purposes of the Bill. Where a statutory declaration is made before a commissioner for oaths the fee is 1s. 6d. As regards fees payable when a declaration is made before a justice or magistrate the charge in the metropolitan police-courts is 1s., while elsewhere it depends on the table of justices' clerk's fees in force whether any, and, if so, what, fee is payable. In the model table of fees issued by the Secretary of State the suggested fee for a declaration is 1s. I may add that a fee of 1s. 6d. or 2s. is payable now in most cases where a certificate of conscientious objection is obtained under Section 2 of the Vaccination Act, 1898.

Wednesday, May 8th.

Marriage and the Transmission of Disease.

Captain Faber asked the Prime Minister whether his attention had been called to the fact that several State legislatures in America had passed Bills to prevent marriages taking place unless both parties were, in the opinion of a qualified physician, free from disease transmissible to their children; and whether he would consider the desirability of introducing a similar Bill here.—Sir Henry Campbell Bannerman answered: I do not propose to undertake legislation on this subject this session.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent Garden, London, W.C.

Treatment by Hypnotism and Suggestion, or Psycho-Therapeutics. By C. Lloyd Tuckey, M.D. Aberd., late Visiting Physician to Margaret-street Infirmary; Membre Fondateur de la Société d'Hypnologie; Honorary Member of the American Society for the Study and Cure of Inebriety; President of the Medical Society for the Study of Therapeutic Suggestion. Fifth edition, revised, and enlarged. With an Introductory Chapter, by Sir Francis R. Cruise, M.D., D.L., K.S.G., Honorary Physician to the King in Ireland. Price 10s. 6d. net.

Churchill, J. and A., 7, Great Marlborough street, London, W.

The Book of Receipts (Beasley). Re-written by E. W. Lucas, F.I.C., F.C.S. Eleventh edition. Price 7s. 6d. net.

Une Méthode Simple pour l'Analyse de l'Eau. Spécialement recommandée aux Officiers Médicaux du Service Sanitaire. Par John C. Thresh, M.D. Vict., D.Sc. Lond., D.P.H. Camb., Lecteur et Examinateur de l'Université de Londres. Traduction sur la Cinquième Edition Anglaise (1904). Par MM. les Dr. Maguier, Interne à l'Asile de Maréville et Thiry, G., Chef du Laboratoire de Bactérologie des Cliniques de l'Université de Nancy. Price not stated.

Clarendon Press, Oxford.

The Imperial Gazetteer of India. The Indian Empire. Vol. I., Descriptive. Vol. IV., Administrative. New Edition. Published under the Authority of His Majesty's Secretary of State for India in Council. Subscription price for the entire work of 26 volumes, bound in cloth, £5 net; or with morocco back, £6 6s. net. Each of the four volumes of "The Indian Empire" sold separately at 6s. net each, in cloth, or 7s. 6d. net., with morocco back.

Fischer, Gustav, Jena.

Die Blutsaugenden Dipteren. Leitfaden zur allgemeinen Orientierung mit besonderer Berücksichtigung der in den Deutschen Kolonien lebenden Krankheitsüberträger. Von Dr. Karl Grünberg, Assistent am Zoologischen Museum zu Berlin. Price M.4 50.

Praktikum der Bakteriologie und Protozoologie. Von Dr. Karl Kisskalt, Privatdozent Oberassistent am hygien. Institut der Universität Berlin und Privatdozent der Zoologie an der Universität und wiss. Hilfsarbeiter am Kgl. Institut für Infektionskrankheiten in Berlin. Price M.4 50; geb., M 5.50.

Über Form und Lage des Magens unter normalen und abnormen Bedingungen. Von Dr. M. Simmonds, Prosektor am Allg. Krankenhause Hamburg St. Georg. Price M.3.

Surgical Pathology and Morbid Anatomy. By Anthony A. Bowlby, C.M.G., F.R.C.S., Surgeon to St. Bartholomew's Hospital and to the Household of His Majesty the King. Fifth edition. Edited with the assistance of Dr. F. W. Andrewes, Lecturer on Pathology at St. Bartholomew's Hospital. Price 10s. 6d. net.

Hodder and Stoughton, Warwick square, London, E.C.

Diseases of the Nose and Throat. By J. Bruce Ferguson, M.D., Instructor in Diseases of the Nose and Throat in the Post-Graduate Medical School and Hospital, New York. (The Medical Epitome Series. Edited by Victor Cox Pedersen, A.M., M.D.) Price 4s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

Devane, J. F., M.B., D.P.H., has been appointed Assistant House Surgeon at the Huddersfield Infirmary.

French, J. Gay, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Surgeon to the Ear and Throat Department, with Charge of Out-Patients, at the Great Northern Central Hospital.

Gilbert, William, M.B., Ch.B. Glasg., has been appointed Assistant House Surgeon at the Huddersfield Infirmary.

Hertz A. F., M.B., B.S. Oxon., has been appointed Assistant Physician to Guy's Hospital.

Jordan, Alfred C., M.D., B.C. Cantab., has been appointed Medical Radiographer to Guy's Hospital.

Murray, H. Leith, M.D. Aberd., has been appointed Joint Pathologist to the David Lewis Northern Hospital, Liverpool.

Reith, W. R., M.D., M.S. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Erdington District of the county of Warwick.

Shaw, Lauriston E., M.D. Lond., F.R.C.P. Lond., has been appointed Physician to Guy's Hospital.

Symes, J. O., M.D. Lond., D.P.H., M.R.C.S., L.R.C.P. Lond., has been appointed Consulting Physician to the Cossham Memorial Hospital, Kingswood, Bristol.

Taylor, Frederick, M.D. Lond., F.R.C.P. Lond., has been appointed Consulting Physician to Guy's Hospital.

Whitehouse, A. Landon, M.R.C.S., L.R.C.P., L.D.S. Eng., has been appointed Honorary Curator of the Museum, Royal Dental Hospital of London.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Army Medical Service.—Examination for Thirty Commissions in the Royal Army Medical Corps.

Bath, Bailbrook House.—Assistant Medical Officer. Salary £140 per annum, with board, lodging, laundry, and attendance.

Belgrave Hospital for Children, Clapham-road, S.W.—Senior and *Junior Resident Medical Officers for six months.* Honorarium at the rate of £20 and £10 a year respectively, with board and lodging.

Brentford Union *Workhouse and Schools*, Isleworth, W.—Second Assistant Medical Officer, unmarried. Salary £125 per annum, with lunch and tea daily and dinner when on late duty.

Brighton, Sussex County Hospital.—House Physician, unmarried. Salary £80 per annum, with board, residence, and washing.

Bury St Edmunds, *West Suffolk General Hospital.*—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

Cancer Hospital, Fulham-road, London, S.W.—House Surgeon.

Canterbury City Asylum.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, apartments, and laundry.

Carmarthen, Joint Counties Lunatic Asylum.—Medical Superintendent. Salary £450 per annum, with house, fire, light, and washing. Also Assistant Medical Officer. Salary £200 per annum, with board, lodging, washing, and attendance.

Cheltenham General Hospital.—House Physician, also Surgeon-in-Charge of Branch Dispensary, both unmarried. Salary of *former* £65 and of latter £90 per annum, with board and lodging.

Chesterfield and North Derbyshire Hospital and Dispensary.—*Junior House Surgeon.* Salary £80 a year, with board, apartments, and laundress.

Cuckfield Union.—Medical *Officers* for Districts *No.* 2, *No.* 6, and No. 7. Salaries £50, £40, and £100 per annum respectively and extra medical fees.

Douglas, Isle of Man, Noble's Isle of Man Hospital and Dispensary.—*Resident House Surgeon*, unmarried. Salary £90 a year, with board and washing.

Dumfries and Galloway Royal *Infirmary.*—House Surgeon and Assistant House Surgeon. Salaries £80 and £25 respectively, with board and lodging.

Eastern Dispensary, Leman-street, Whitechapel, E.—Surgeon. Salary £50 per annum.

Essex and Colchester General Hospital.—House Surgeon. Salary £80 per annum, with board, washing, and residence.

Evelina Hospital for Sick Children, Southwark Bridge road, S.E.—House Physician, *House Surgeon*, and Assistant House Surgeon. Salary of two former £80 and of latter £70 per annum, with board, residence, and washing.

Exeter, Royal Devon and Exeter Hospital.—Assistant House Surgeon, unmarried. Salary £60 per annum, *with board, lodging*, and washing.

Gloucester, General Infirmary and *Gloucestershire* Eye Institution.—Assistant House Surgeon for six months. Salary at rate of £30 per annum, with board, residence, and washing.

Gordon Hospital, Vauxhall Bridge-road, S.W.—Resident House Surgeon.

Guildford, Royal Surrey County Hospital.—Assistant House Surgeon. Salary £50 per annum, with board, *residence*, and *laundry*.

Guy's Hospital Dental School.—Travelling Scholarship. Value *£100.*

Hospital for Sick Children, Great Ormond-street, *London*, W.C.—*House Surgeon*, unmarried, for six months. Salary £20, with board and residence.

Kensington General Hospital, Earl's Court, London, S.W.—Assistant Surgeon.

Kensington Workhouse and Infirmary.—Second Assistant Reside Medical Officer. Salary £100 per annum, with apartments, board and washing.

Lambeth Parish Infirmary, Brook-street, Kennington-road, S.E.—Clinical Assistant for six months. Salary at rate of £100 p annum, with residential allowances.

Liverpool Stanley *Hospital.*—*Junior House Surgeon.* Salary £ per annum, with board, residence, and washing.

London (Royal Free Hospital) School of Medicine fo Women, 8, Hunter-street, W.C.—*Second Demonstrator of Anatom* (female).

Maidstone, West Kent *General Hospital.*—Assistant Hou Surgeon and Anæsthetist, unmarried. Salary £60, with board lodging, and washing.

Manchester and Salford Hospital for Skin Diseases.—Hou *Surgeon. Salary £75 per annum*, with board and residence.

Metropolitan Hospital, Kingsland-road, N.E.—Surgeon. Als *Assistant Surgeon.*

Middlesex Hospital.—Medical Officer and Registrar to the Cance Department. Salary £100 per annum, with board and lodging.

Miller Hospital, Greenwich road, S.E.—Junior House Surgeon Salary at rate of £80 per annum, with board, attendance, an washing.

Newport and Monmouthshire Hospital.—Junior Resident Medic Officer. Salary £70 per annum, with board, residence, an laundry.

Northampton, Berry Wood Asylum.—Junior Assistant Medic Officer, unmarried. Salary £150, increasing to £200, with board, lodging, washing, and attendance.

North-Eastern Hospital for Children, Hackney-road, Bethnal Green, E.—Medical Officer in Charge of Electrical Department Salary £50 per annum.

Paddington Infirmary and Workhouse.—First Assistant to the Medical Superintendent of the Infirmary and Assistant Medical *Officer of the* Workhouse. *Salary £120 per annum, rising to £150* per annum, with board, lodging, and washing.

Royal College of Surgeons of England.—Hunterian Professor, Arris and Gale Lecturer, and Erasmus Wilson Lecturer; also *Jacksonian* and *Cartwright Prizes.*

Royal Ear Hospital, Dean street, Soho, W.—House Surgeon for six months. *Salary at rate of £40* per annum.

Royal Eye Hospital, Southwark, S.E.—House Surgeon. Salary *£52* 10s. per annum, with board and residence.

Royal Free Hospital, Gray's Inn road, W.C.—Assistant to the Clinical Pathologist and Assistant Anæsthetists (females).

Royal Waterloo Hospital for Children and Women, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

St. Bartholomew's Hospital.—Assistant Physician-Accoucheur, Assistant Surgeon, and Assistant Aural Surgeon.

St. Mark's Hospital for Fistula and other Diseases of the Rectum, City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

St. Mary's Hospital, Paddington, W.—Physician in Charge of Out-Patients.

St. Thomas's Hospital.—Assistant Physician.

Scarborough Hospital and Dispensary.—Junior House Surgeon. Salary £80 per annum, with board, residence, and laundry.

Swansea General and Eye Hospital.—House Surgeon. Salary £75 per annum.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—House *Physician for six months. Honorarium* of £30, with board and lodging.

Warwick *County Lunatic* Asylum, Hatton, Warwick.—Junior Assistant Medical Officer. Salary £130, with board, lodging, and washing.

West Bromwich District Hospital.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, *with board*, residence, and washing.

West-End Hospital for *Diseases of the* Nervous System, &c., 73, Welbeck-street, London, W.—Resident House Physician and Medical Registrar. *Salary at rate of 50 guineas per annum*, with board, washing, and attendance.

Wigan, Royal Albert Edward Infirmary.—*Junior House Surgeon.* Salary £100, with apartments, washing, and rations.

Worcester General *Infirmary.—House Physician. Salary £80* per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

Barnicot.—On May 4th, at 40, Queen-street, Hitchin, Herts, the wife of J. Barnicot, M.D., of a son.

Dunnett.—On May 6th, at Ascott-avenue, Ealing, Agnes Dunnett, M.B. Lond., wife of Lionel Francis Dunnett, of a daughter.

Heggs.—On April 30th, at *Toronto House*, West Bromwich, the wife of Raymond Mitchell Heggs, L.R.C.P. Lond., M.R.C.S., of a son.

MARRIAGE.

De Voss—Kanthack.—On May 8th, at the German Church, Montpelier-place, Brompton-road, S.W., Gustav de Voss, of 5, Eichen Strasse, Gross Flottbek, Holstein, Germany, to Emilia Victoria, daughter of *Emilio* Kanthack, of Sherborne, Mortlake-road, Kew Gardens.

DEATHS.

Abbott.—On May 4th, at Killiney House, Killiney, Arthur J. Abbott, M.D. T.C.D., second son of Rev. Dr. Abbott, S.F. T.C.D., aged 41.

Macartney.—At 18, Newton-place, Glasgow, on 5th inst., Jessie Jane Logan, wife of Dr. Duncan Macartney.

MacDonald.—On May 3rd, at Stornoway, Lewis, Donald J. MacDonald, M.B., C.M., D.P.H. Aberd., J.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THE ANTI-OPIUM REMEDY."

FURTHER particulars of "the anti-opium remedy" are quoted in the *Pharmaceutical Journal* from the *Journal of the Federated Malay States Museums* for December, 1906. The history of the discovery of the plant Combretum sundaicum and the reason for roasting it previously to use is as follows. A party of Chinese wood-cutters, working in the jungle near Seremban, ran out of tea and to supply its place took the leaves of a jungle climber, dried them, and made an infusion in the usual way. This substitute was not found to be successful, as it produced bowel complaint among the men. It was found, however, that the leaves on being roasted formed a fair substitute for tea and produced no ill-effects. Then for some obscure reason kengko—i.e., opium dross or the refuse opium after being smoked—was mixed with it and the men continued to drink the infusion prepared from the mixture for a week or more in place of tea. After this time it was found that all desire for opium smoking had been lost. The news of the discovery then spread with great rapidity and others were induced to try the remedy. In preparing the drug for use care is taken to separate the leaves from the stems and to roast them separately, in order to avoid undue heating of the leaves. A decoction is prepared by boiling from eight to 11 ounces of the roasted stems and leaves in four gallons of water for about three hours, and straining the liquid into a barrel. No preservative is used, so that the decoction is very subject to fermentation, and fresh supplies have to be obtained frequently. It is stated that a Chinese opium smoker consumes from 116 to 175 grains of opium daily, although in one case as much as 875 grains form the daily allowance. The opium is less potent than the B.P. extract of opium and a considerable quantity of the alkaloids present are destroyed during the process of smoking, so that only a small portion is absorbed into the system of the smoker. If a man has been in the habit of smoking 116 grains of opium per day then that quantity of opium is roasted in the same way as it would be if prepared for smoking and placed in a bottle containing 25 fluid ounces of the decoction. Then a dose of three fluid ounces is taken by the patient, after which three fluid ounces of the simple decoction of the anti-opium plant are transferred to this bottle from another bottle containing 25 fluid ounces of the liquid. This is repeated each time a dose is taken until the bottle of simple decoction is finished. The dose is taken as many times a day as the patient has been in the habit of smoking, usually three or four times, until both bottles are finished, when the patient should no longer desire to smoke opium. If he is not cured the treatment is repeated, with a smaller initial proportion of burnt opium, the amount being still further decreased if a third course should be necessary. Mr. L. Wray, I.S.O., the author of the article, states that generally three courses are required.

DIAGNOSIS IN EXCELSIS.

To the Editors of THE LANCET.

SIRS,—A patient of mine, a fine healthy man with no family history of consumption, has recently suffered from severe attacks of asthma. Previous to this he was a great athlete. Last year he consulted Sir Sydney Jones, who, after a very long and careful examination, said, "I can find nothing wrong except a slight trace of asthma on the right side." I have examined him frequently with the same result. Two months ago he had occasion to consult one of the leading registered dentists in Sydney who said, "By the appearance of the gums of one of your teeth I should say you were developing consumption." Is this Sherlock Holmes or what? I am, Sirs, yours faithfully,

April 2nd, 1907.

MEDICUS.

*** Let us hope that the patient reported his dentist's words incorrectly.—ED. L.

HOSPITAL ABUSE: A SUGGESTED REMEDY.

A CORRESPONDENT whose position as a member of one of the public services precludes him from signing his name has written to us. He says that his letter is of "a somewhat polemical nature," and we agree with him so far. We cannot endorse all that he says, but undoubtedly some of his forcible statements have a ground in fact. He considers that there are two main causes of hospital abuse—the one being the number of salaried officials of hospitals whose interest it is to make the work of a hospital appear as far-reaching as possible, and the other the fact that the medical and surgical members of hospital staffs, although by words opposed to hospital abuse, are not so in practice. His first complaint is not borne out by facts, while a more jealous eye than the public and perhaps many members of the medical profession are aware of is kept over hospital expenditure. With regard to the second matter, he points out that it is in the power of the medical staffs of hospitals to effect the necessary reforms if they presented a solid front. "If the hospital staffs of all London," he suggests, "said collectively to their governors, 'We demand that our expenditure of time, labour, and skill, which are absolutely indispensable to the working of the hospitals, and of far greater value to the hospitals than your contributions, be recognised by giving each one of us a voice in the control of the hospital, or we shall unanimously resign,' this most just demand would have to be at once conceded." He points out that the general practitioner is the greatest sufferer from hospital abuse and suggests the following remedy. "The general practitioner must combine and say effectively to the member of the hospital staff, 'I will not send you another case till the abuse at your hospital is rectified'"; and he calls upon the British Medical Association to provide the means and the organisation for carrying out this scheme.

The question of hospital abuse teems with difficulties and our correspondent's statement of the evils and suggestions for their removal are of too sweeping a nature. His letter was prompted by the recent discussion on hospital abuse at the Westminster branch of the British Medical Association. The sense of this meeting was in favour of a central hospital board, a remedy which he does not consider drastic enough. But the perfect combinations which he postulates among general practitioners and among hospital staffs have yet to be arrived at. As many have said, hospital abuse is mainly an expression of a want of organisation and of coincidence of opinion among medical men themselves. And no amount of organisation will ever get all medical men to think alike upon the subject. The letter from which we have quoted is at least an honest expression of opinion from a medical man who is neither a general practitioner nor a hospital medical officer. He is therefore presumably unbiased.

A NEGLECTED TEXT.

To the Editors of THE LANCET.

SIRS,—Heaven forbid that I should add to a controversy which suffers from being conducted upon a subject where no absolutely certain evidence can be adduced by either side and which might be made interminably long by honest opponents for just this reason. Not even the total prohibitionist is more aware of the evils caused by alcohol than is the moderate user of alcohol. And whereas the prohibitionist, looking at good work done by users of alcohol, can say that the work might have been still better if its author had been a teetotaller, it is equally open to the user of alcohol to say that many an active prohibitionist would have been a still more valuable citizen if he had taken an occasional glass of wine. Neither can be contradicted.

I am writing not to expound such obviousness but to wonder why the following text has been so neglected in all the tons of correspondence upon the alcohol question. The views of David and Timothy are constantly quoted but never this striking sentence: "And the trees said unto the vine, Come thou, and reign over us. And the vine said unto them, Should I leave my wine, *which cheereth God and man,* and go to wave to and fro over the trees?" (Judges ix. 13, revised version). I am, Sirs, yours faithfully,

M.D.

THE GOLDEN FLEECE.

A PAMPHLET bearing the above title on the cover has been sent to us with a request for a review. It bears the further title, "A New Medical Statement upon Alcohol: Analysis and Counter Statement," and comprises the opinion of the British Temperance League with regard to the recent pronouncement upon alcoholic beverages which appeared in our columns above the signatures of 16 well-known medical men. There is nothing in the pamphlet to review. We are sure that the advocates of temperance tenets are sincere in their beliefs, but once again they show that they cannot credit their opponents with an equal desire to speak the truth. The origin of the "manifesto," as the collective opinion of the writers is termed, is attributed in this pamphlet to a writer who "did political work for the 'Moderates' at the recent London County Council election, the 'Moderates' being the party which had the support of the liquor and betting interests." We are accused quite untruthfully of sending out advance copies of THE LANCET containing the pronouncement, and the intellects of the signatories are impeached on the score of their age. This sort of thing is rudeness, not analysis, and does the cause of temperance real harm.

WHITSUNTIDE ON THE CONTINENT.

RETURN tickets at reduced fares available for eight days will be issued to Brussels from May 15th to 18th and 20th, *viâ* Harwich and Antwerp. Passengers leaving London in the evening reach Brussels next morning after a night's rest on board the steamer. For visiting The Hague, Scheveningen (the Dutch Brighton), and Amsterdam for the old world cities of the Zuyder Zee, and the International Exhibition at Mannheim, special facilities are offered *viâ* the Great Eastern Railway Company's British Royal Mail Harwich-Hook of Holland route. A corridor train with vestibuled carriages, dining and breakfast cars, is run on the Hook of Holland service between London and Harwich. From the Hook of Holland through carriages and restaurant cars are run in the North and South German express trains to Cologne, Basle, and Berlin, reaching Cologne at noon, Basle and Berlin in the evening. For the convenience of passengers tickets dated in advance can be obtained at the Liverpool-street Station Continental Enquiry and Booking Offices. The Danish Royal Mail steamers of the Forenede Line of Copenhagen will leave Harwich for Esbjerg (on the west coast of Denmark) on May 15th and 18th, returning on May 21st and 22nd. The General Steam Navigation Company's steamers will leave Harwich on May 15th and 18th for Hamburg, returning on May 19th and 22nd.

HOW INFECTION IS SPREAD.

THE risks to which the community is liable from the negligence of persons suffering from infectious diseases were illustrated at Todmorden recently, where the father of a lad suffering from scarlet fever has been fined for his negligence. The proceedings were taken at the instigation of the medical officer of health who had been informed by neighbours of the lad that he had been associating with the general public. The lad himself confessed that he had been to a football match and mixed with other boys. An epidemic of scarlet fever has lately prevailed in the Cornholme part of Todmorden and since the police-court proceedings 24 cases have been notified.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—I should be glad if any of your readers could tell me of a home (private or otherwise) where an old lady suffering from aneurysm of the aorta and practically bed-ridden could be taken care of. She is prepared to pay £1 a week. Thanking you in anticipation,

I am, Sirs, yours faithfully,
J. H. YOLLAND.

53, Bromley-common, Kent, May 4th, 1907.

CYDER.

IN an analytical notice in THE LANCET of April 27th, p. 1170, of Messrs. William Gaymer's Norfolk cyder we omitted to add that the samples were found to be entirely free from objectionable preservatives. Considering how commonly cyder is preserved with salicylic acid we print this addendum with pleasure.

A NEW FORM OF DEEP-SOLED BOOT.

To the Editors of THE LANCET.

SIRS,—I should like to call attention to an invention which appears to me to be of some importance. In cases of hip disease in which there has been shortening and a boot with a deep sole has to be worn the resulting limp appears to be largely increased by the shortening of the step on the diseased side. This is produced by the comparative immobility of the ankle on the thick sole which prevents the natural bend as the body comes forward over the supporting foot. A remedy for this defect is provided by a surgical boot invented by Mr. Fageant, bootmaker, of 48, Richmond-road, Kingston-on-Thames. The foot of this boot is moveable on the sole at the junction of the anterior and middle thirds and the movement is restricted to an up-and-down one by a guide which at its greatest flexion remains over the sides of the heel. The result of the use of the boot is a considerable diminution of the limp, practically in some cases abolishing it, and the patient walks longer distances with no greater fatigue. The cost is about the same as that of other surgical boots and I feel sure that many people whose only sign of past ill-health is a limp will welcome the invention.

I am, Sirs, yours faithfully,
ROGER N. GOODMAN.

Kingston-hill, Kingston-on-Thames, April 24th, 1907.

*** We have examined the boot to which Mr. Goodman refers and agree with him that the idea is a good one.—ED. L.

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Ship Surgeon.—Our correspondent will possibly find all the information which he seeks in the following work: "The Ship Surgeon's Pocket Book and Medical Officer's Log," by W. E. Dawson, formerly Admiralty Surgeon. London: Baillière, Tindall, and Cox. 1905. Price 2*s.* 6*d.*

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 9th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 3	29 46	W.	0·04	101	56	44	45	49	Cloudy
" 4	29·59	W.	0·09	113	61	45	45	49	Cloudy
" 5	29·83	E.	...	104	61	45	47	50	Overcast
" 6	29·63	S.E.	0·01	114	72	50	54	56	Fine
" 7	29·68	S.W.	...	76	58	53	51	56	Cloudy
" 8	29 87	S.W.	0·40	116	65	49	52	58	Fine
" 9	29 87	S.W.	0·24	76	54	49	50	52	Raining

During the week marked copies of the following newspapers have been received:—*Yorkshire Evening Post, Standard, Daily News, Daily Chronicle, Belfast News, Tribune, Hull Eastern Morning News, Hampstead Express, South London Press, Morning Post, Preston Guardian, Durham Chronicle, Daily Express, Glasgow Herald, Scotsman, Wimbledon Gazette, Broad Arrow, Army and Navy Gazette, Literary Digest (New York), &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.). Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (18th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (13th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M.: General Meeting. Election of Officers and Council, &c. 8.30 P.M.: Papers:—Dr. H. Mackenzie: Mobility of the Kidneys.—Dr. W. Broadbent: Some Heart Affections with Murmurs.

TUESDAY (14th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Mr. E. M. Corner: Fractures of the Odontoid Process of the Axis (epidiascope demonstration).

WEDNESDAY (15th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Exhibition of Pond Life. Papers:—Prof. A. W. Porter and Mr. P. F. Everitt: Diffraction Rings due to a Circular Aperture.—Mr. E. M. Nelson: An Improved Vertical Illuminator.

SOCIETY OF ARTS (John-street, Adelphi, W.C.).—8 P.M.: Dr. H. W. G. Macleod: Trypanosomiasis or Sleeping Sickness.

THURSDAY (16th).—MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND (11, Chandos-street, Cavendish-square, W.)—3 P.M.: Papers:—Dr. W. F. Robertson and Dr. G. D. McRae: Further Bacteriological and Experimental Investigations into the Pathology of General Paralysis.—Dr. H. Devine: A Case of Katatonia in a Congenital Deaf-Mute.

FRIDAY (17th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5 P.M.: Wightman Lecture:—Dr. F. Taylor: Pneumonia in Children.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (13th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Pathological Demonstration:—Dr. Low. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Major L. Rogers, I.M.S.: The Clinical Diagnosis of Fevers in the Tropics (illustrated by lantern slides).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. A. Whitfield: Clinique. (Skin.) 5.15 P.M.: Lecture.

North-East London Post-Graduate College (Tottenham Hospital, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham), Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (14th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Mr. Paget.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Dr. S. Cautley: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. W. S. A. Griffith: The Arrest of Uterine Hæmorrhage under Various Conditions.

North-East London Post-Graduate College (Tottenham Hospital, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson). 3.30 P.M.: Demonstration of Cases at Colney Hatch Asylum (Dr. H. Corner).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. Special *Lecture*:—Mr. Carless.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Mr. Stuart-Low: Middle Ear and Labyrinth.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Beevor: Muscular Atrophy.

WEDNESDAY (15th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Pardoe: Hæmaturia.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. M. Collier: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. B. Harman: Injuries to the Superficies of the Eye.

North-East London Post-Graduate College (Tottenham Hospital, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

THURSDAY (16th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Keetley: Cases of Interest in the Wards.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. M. Yearsley: Syphilis in the Ear.

North-East London Post-Graduate College (Tottenham Hospital, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel). 4.30 P.M.: Special Demonstration of Surgical Cases (Mr. W. Edmunds).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon, Ear and Throat.

Charing Cross Hospital.—4 P.M.: Dr. Eden: Demonstration (Gynæcological). (*Post-Graduate Course.*)

Hospital for Sick Children (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Mr. G. E. Waugh: Hip Disease in Children.

FRIDAY (17th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. S. Taylor: Pneumonia.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. W. Stuart-Low: Clinique. (Ear.)

North-East London Post-Graduate College (Tottenham Hospital, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. Special Lecture:—Dr. R. Bradford: Jaundice.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Beevor: Bulbar Paralysis.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Mr. Stuart-Low: Middle Ear and Labyrinth.

SATURDAY (18th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations.

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

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A Lecture

ON

THE CANCER PROBLEM.

Delivered at the Incorporated Institute of Hygiene on May 14th, 1907,

BY J. BLAND-SUTTON, F.R.C.S. ENG.,

SURGEON TO, AND MEMBER OF THE CANCER INVESTIGATION COMMITTEE OF, THE MIDDLESEX HOSPITAL.

GENTLEMEN,—Whilst the public is persistently asking the profession to explain the nature and cause of the tumour-diseases grouped together for clinical convenience under the general term cancer, some observations have been made which tend to show that physicians and surgeons have failed to grasp the subject in its full meaning. We are still hopelessly ignorant of the cause of cancerous disease and have to rely on histologic methods for distinguishing between the various groups, or kinds, of malignant tumours; on these grounds I think to-day it will be useful to consider the structural details which serve for the identification of a malignant tumour. The ultimate histological analysis of our bodies shows that they, like the bodies of other vertebrates, consist of epithelium, connective, muscular and nervous tissues, and though these tissues present important modifications in different regions of the body and give rise to a great variety of tumours a careful examination of their structure by means of the microscope will enable a competent histologist to state with certainty the kind of tissue in which a particular tumour arose. It is on this account that tumours of all kinds are classified on a structural (or histologic) basis and it is a remarkable fact that nearly every tissue in the body is found in the form of a tumour and every tissue, with the exception of three (fat, voluntary muscle, and nervous tissue), is the source of malignant tumours.

There are five distinct groups of malignant tumours: (1) the true cancers are those which arise from epithelium whether protective or secretory (glandular); (2) the chorion-epithelioma which is derived from the epithelium of the chorionic villi out of which the placenta is formed; (3) the endotheliomata derived from the modified epithelium lining blood and lymph vessels and serous membranes; (4) sarcomata which grow from connective tissue, whether firm and dense like periosteum or so fine as the sustentacular tissue of the retina; and (5) a remarkable group of tumours known as malignant teratomata arising in perversion of the sex-cell (malignant embryomata).

In dealing with these tumours we are confronted with the fact that there is no such thing as an absolute histologic indication of malignancy, clinical and histological characters must be considered together; moreover, in the extensive group of connective tissue tumours, although a typical cartilage tumour, a uterine fibroid, or a myeloma can be distinguished from a sarcoma or a cancer as easily as a decision can be made between a planet and the pole star, there are in every genus of connective-tissue tumours forms which in their minute structure so closely resemble sarcomata that the most expert and experienced microscopists cannot give a confident opinion for or against malignancy. The true character of such tumour can only be determined by careful observation of the patient. It is also necessary to draw attention to the difficulty which is sometimes experienced in deciding between the tumour formations (gummata) of syphilis and sarcomata.

SARCOMATA.

It may be useful to give some examples of the difficulty which arises out of this failure in histological methods and its importance to patients. Many years ago I saw a testicle removed from a young man; on dividing the gland it seemed to me a mistake had been made and that its enlargement was due to a gumma. I begged half the specimen and made it the subject of careful microscopic inquiry which further convinced me that it was a gumma. The operator handed the other half of the testis to a very experienced and skilful histologist who also came to the opinion that the supposed sarcoma was a gumma. Time proved us both in error, and this patient died with secondary deposits in his lungs and abdomen within two years of the operation.

In 1905 I removed the uterus from a woman, aged 40 years, on account of a fibroid as big as an ostrich's egg which had become impacted in the pelvis producing pain in the great sciatic nerve. The patient recovered easily and well. The tumour was moderately hard and displayed the characteristic features of a common fibroid. Some months later the pain in the sciatic nerve returned and a hard diffuse mass could be detected in the pelvic connective tissue; fragments were removed and submitted to three histologists who reported that they exhibited the typical characters of an innocent fibroid. The patient died 14 months after the primary operation; *the apparently innocent fibroid was a spindle-celled sarcoma.*

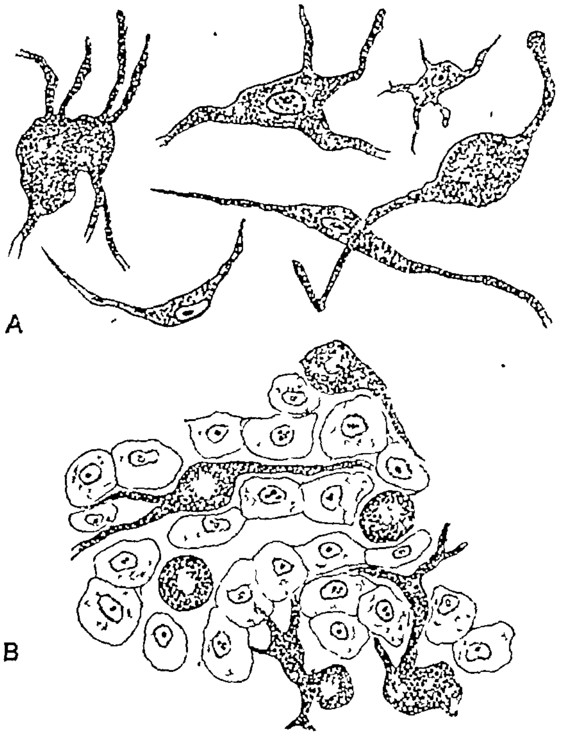
Many years ago, when my attention was closely devoted to the study of odontomes, I received from a veterinary friend a tumour as big as the egg of a turkey which he had removed from the maxillary sinus of a horse; on dividing it I found in the centre a soft pulp instead of the tooth I had hoped for; on microscopic examination the thickness of the tumour mass was found to be composed of dense laminæ of fibrous tissue, but the central pulp consisted of mycelium, and of a kind new to me. I carefully preserved the entire specimen and some years later Mr. A. G. R. Foulerton kindly investigated it and found that the pulp contained a streptothrix. Some years ago such a mass would have been classed among sarcomata. There is, however, a point in which sarcomata differ from all forms of infective tumours arising in connective tissue, as the result of local irritation due to syphilis, actinomycosis, tubercle, or foreign bodies, quite apart from the presence of a local irritant; the tissue resulting from such irritants is always of the simple kind, whereas in some of the sarcomata, especially those arising from periosteum, we meet with hyalin cartilage, well-developed spindle cells, some of them presenting a transverse striation such as is seen in the young cells, which ultimately form transversely striped (voluntary) muscle. The tissue which forms the neutral capsule to a focus of tuberculous or syphilitic infection never passes beyond the condition of simple fibrous tissue and is practically non-vascular, whereas the sarcomata are, as a rule, very vascular, and although in the rapidly growing forms they rarely pass beyond the condition of thin-walled channels yet in the slower growing kinds well-developed blood-vessels may be detected.

The difficulty of distinguishing between chronic inflammatory tissue and sarcomata is one which we may hope will be overcome in the laboratory; in this respect the bacteriologist has had some marked successes. Some years ago we had great difficulty in deciding between a gumma, a sarcoma, or a streptothrix mass; to-day we expect a laboratory worker to find in the first the spirochæta pallida, in the last the streptothrix, and we are full of hope that he will some day in the spindle-celled sarcoma find some distinguishing and easily recognised sign. It is very necessary to discover the cause of these tumours, for at the present time our histologic methods fail us most where they would be of the greatest use—namely, in providing a means of distinction between sarcomatous tissue and the innocent tissue of which so many fibroids of the uterus consist. The peculiar local reaction of the connective tissue in recognised parasitic diseases, whether syphilitic, actinomycotic, or echinococcic, is also a marked feature of some of the most typical cancers, providing them with what is known as the stroma. The formation of a stroma occurs in all malignant tumours except the chorion-epithelioma and is especially marked in the true cancers. The vascularity of sarcomata is an important feature in connexion with their dissemination, because the growth permeates the walls of the veins and the cellular processes project into, and creep along, their lumina much in the same way that an outrunner from a malignant tumour of the kidney will grow into the ureter. When sarcomata grow in the immediate neighbourhood of large veins like the internal jugular or the inferior vena cava and perforate it, the intravenous processes may be as big as the end of a finger, and sometimes a piece may be detached which is too large to pass the right auriculo-ventricular valve and causes sudden death. The part played by the blood stream in disseminating sarcoma is best seen in cases of melano-sarcoma, for the blackness of the pigment renders the secondary nodules particularly conspicuous, and in some instances the skin, viscera, and bones may be dotted with thousands of discrete black dots indicating the lodgment of minute sarcomatous emboli. When the primary growth arises in the skin it will invade the local lymphatic in the same way as cancer and give rise to enlargement of the local lymph glands.

MELANO-SARCOMATA.

Certainly the rarest and most remarkable tumours among the sarcomata are the pigmented species known as melano-sarcomata and they arise from the pigment cells of the uveal tract and of the skin. We have been accustomed to classify these malignant tumours roughly as round-celled or spindle-celled according to the prevailing type of cell visible in magnified sections; but there is another, but very rare, kind detected by Collins, which arises from the glandular epithelial cells in the ciliary body. Ribbert has published some observations (1897) which add great interest to these tumours. When the melano-sarcomata which arise in the choroid are examined by teasing, the cells then assume the stellate forms with which most of us are familiar in the pigment cells so abundant in the skin of frogs and other amphibians and particularly in cuttle-fishes. These are known as chromatophores, and Ribbert would have us so regard these cells in the choroid and in the skin, and he even suggests that the melano-sarcomata might be appropriately termed chromatophoramata. In regard to this it is necessary to point out that the black pigment (melanin) in the pigment cells of vertebrates only agrees (according to MacMunn) with that of invertebrates in the common attribute—blackness. The interest of Ribbert's observations in connexion with the subject of this lecture lies in the fact that in secondary nodules of choroidal melano-sarcomata which were found in the liver and brain, the cells were identical with the chromatophores so characteristic of the lamina fusca element of the choroid. (Fig. 1.)

FIG. 1.



Pigmented stellate cells from a melano-sarcoma. The cells in the lower part of the drawing are from a secondary nodule in the liver; the upper from a metastatic nodule in the brain. The primary tumour in each instance arose in the choroid. Teased specimens (after Ribbert).

These observations not only justify us in assigning these remarkable tumours to the genus sarcomata but furnish us with additional evidence of the object to which this lecture is devoted—namely, to demonstrate that every variety of cell in the human body, even the most specialised, with the three exceptions named (fat, voluntary muscle, and nerve cells), may be the source of a malignant tumour.

CARCINOMA.

The term cancer is now definitely restricted by pathologists to malignant tumours (or growths) arising in epithelium; even with this apparently clear definition difficulties arise not only in regard to the microscopic recognition of malignant epithelium but even in determining what cells are to be included in the term epithelium. Anatomists adopt a compromise and include as epithelium proper the cells clothing the skin, the surface of the alimentary canal from the mouth to the anus, and the cell investment of the genito-urinary organs. The cells lining blood and lymph-vessels and serous membranes—e.g., peritoneum and pleura—are known as endothelium, and finally the extraordinary cells covering the chorionic villi come into the same category and help to set at naught the best endeavours of the classifier. We have to realise that every variety of epithelium, using the term in its broadest sense, may give rise to malignant tumours; it matters not whether it be the coarse protective epithelium on the palm or the sole, the rich columnar cells of the gastro-intestinal tract, or the active covering of the chorionic villi and the delicate endothelial lining of the capillaries and serous surfaces as well as of lymphatics, but beyond all this we have come to realise that even the sex cells in the ovary occasionally display the destructive conditions covered by the term malignancy.

The most remarkable feature of protective and secretory epithelium is its vitality; this is well displayed when portions of it are accidentally detached from the skin by awls, forks, knives, or needles, and imbedded in the cutaneous tissues where it lives and grows, forming, in many instances, a cyst lined with epithelium (implantation cysts). The formation of cysts of this kind is best studied in relation with the eye. Punctured wounds of the cornea made with needles, forks, and even instruments as coarse as a rapier are sometimes followed by small epithelial cysts, and even hair growing on the iris. These cysts are known to arise from portions of conjunctival epithelium and in some cases eyelashes conveyed into the anterior chamber of the eye by the instruments at the time of the puncture. Implantation cysts of this kind are occasional sequelæ to carefully performed operations made to extract cataracts, &c. It is curious to observe that when definite and skilfully planned experimental grafts have been placed on the iris of rabbits it is rare that they survive, and even when they appear to take root, so to speak, it is only temporary and they either disappear or more frequently become extruded from the eyeball.

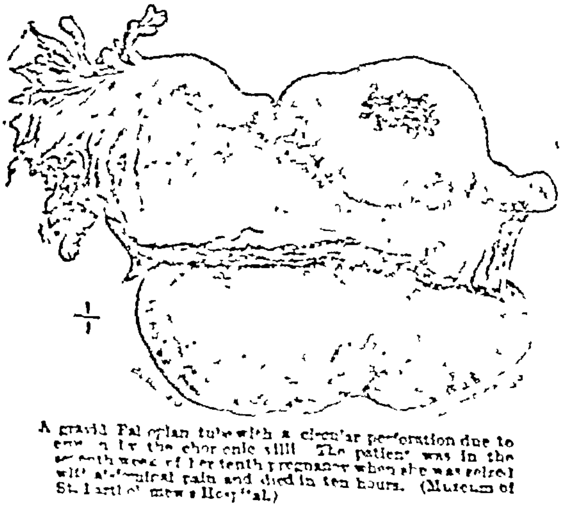
This vitality of epithelial cells is even more marked in those derived from cancers and the rate at which displaced cancer cells multiply depends in a very large measure on their environment. In discussing this part of the subject it will be shown that this attitude of the cancer cell to favouring situations has some interesting and important clinical aspects. In the first place it is necessary to point out that there is nothing specific about a cancer cell, nothing which would enable even the most expert pathologist to recognise it if placed singly under the microscope. In order to identify a cancerous growth it is necessary to have a section prepared from the suspected tissue and appropriately stained so that the arrangement or grouping of the tissues composing it can be studied before a reliable opinion can be formed in regard to it; even then in many instances doubt and difficulties arise, and it is quite a common thing for men of equal experience to differ in opinion as to the malignancy or otherwise of a given section of a suspected cancer.

Another feature manifested by cancerous cells is their aggressive or erosive property. The majority of simple (or non-malignant) tumours are invested by a capsule of fibrous tissue which in a measure isolates them from the surrounding tissues in which they are imbedded, but in nearly all malignant tumours this investment is wanting and the cells are free to invade or permeate the parts immediately adjacent, and in this way the tissues, whether they be soft like muscle, fat, or mucous membrane, are quickly invaded, eroded, and destroyed. This erosive action is well seen where cancer comes into relation with bone, for even this tough tissue is destroyed and the growth permeates it, forming bays and recesses even in its toughest parts. This destructive action of the cancer cell is a source of grave danger, for when a large blood-vessel or an air passage or a serous cavity is implicated by cancer the walls of these structures are destroyed, leading to serious consequences, such as bleeding, difficulties with respiration, or infection of the great cavities of the body, which lead sooner or later to grave disasters. Moreover, it is this erosive action which lies at the bottom of the peculiar feature displayed by malignant tumours known as dissemination (metastasis). In many parts of the body epithelial cells are very active; some, as in secreting glands, take from the blood material which they elaborate and then excrete for the use of the organism, a process termed for convenience metabolism: this in the ordinary affairs of life we call the making or manufacture of a substance. In the intestine the columnar cells withdraw directly from the digested food fat for conveyance into the lacteals; hence when these cells become cancerous they remain active but with perverted function, and they digest the natural tissues of the host and grow at the expense of his body. The best example of the aggressiveness of epithelium under normal conditions is that possessed by the cells of the chorionic villi. We have lately come to learn that it is one of the prime duties of this epithelium to erode the decidua in order to enable the oösperm (fertilised ovum) to imbed itself into the uterine tissues and bring about a firm fastening for the tissues which are ultimately to become a placenta. Under normal conditions this is effected without much disturbance. We have come to learn that under abnormal conditions this erosive or destructive action of these curious villi may become excessive and disastrous and the villi themselves are liable to behave in every respect like, and may actually become, a malignant tumour.

The aggressiveness of these cells is easily studied in the early stages of pregnancy in a Fallopian tube; when the oösperm settles on the tubal mucous membrane the chorionic villi quickly penetrate it and burrow into the muscular layer penetrating to the serous covering, and even this may be perforated by them and the villi project freely into the peritoneal cavity. This is shown in an exquisite manner by a gravid tube in the Museum of St. Bartholomew's Hospital. The parts were removed from a patient in the seventh week of her tenth pregnancy; she was seized with pain and signs of internal hæmorrhage and died in ten hours. The specimen shows a fairly circular perforation of the wall of the tube with the delicate chorionic villi projecting through it. (Fig. 2.)

In the uterus this perforating power of the chorionic epithelium is most destructively displayed when the villi are in the condition known as hydatidiform disease and cases have been observed and reported in which the villi have perforated the muscular and serous coats of the uterus, and processes of the villi have projected in several places from the serous coat of the uterus, as in the gravid tube depicted in Fig. 2. The uterus, especially when gravid, contains large blood channels and in the course of the erosion processes of the villi find their way through the walls of these blood-vessels, especially the venous channels, and project like buds into the lumina and the blood current detaches the surface cells, sets them free into the blood stream, and they become deported to the lungs or elsewhere as emboli. When the hydatidiform change is malignant (chorion-epithelioma) these cellular emboli give rise to new foci of the disease (secondary or metastatic nodules) in the organs in which they may chance to be arrested. We have, then, in this [illegible] a review of one of the routes by which cancer disseminates, but it is not the only way, but before considering this matter it will be worth while to discuss the relation of cancerous invasion of blood and lymph vessels as well as the behaviour of the blood itself to the invading cancer cells.

FIG. 2.

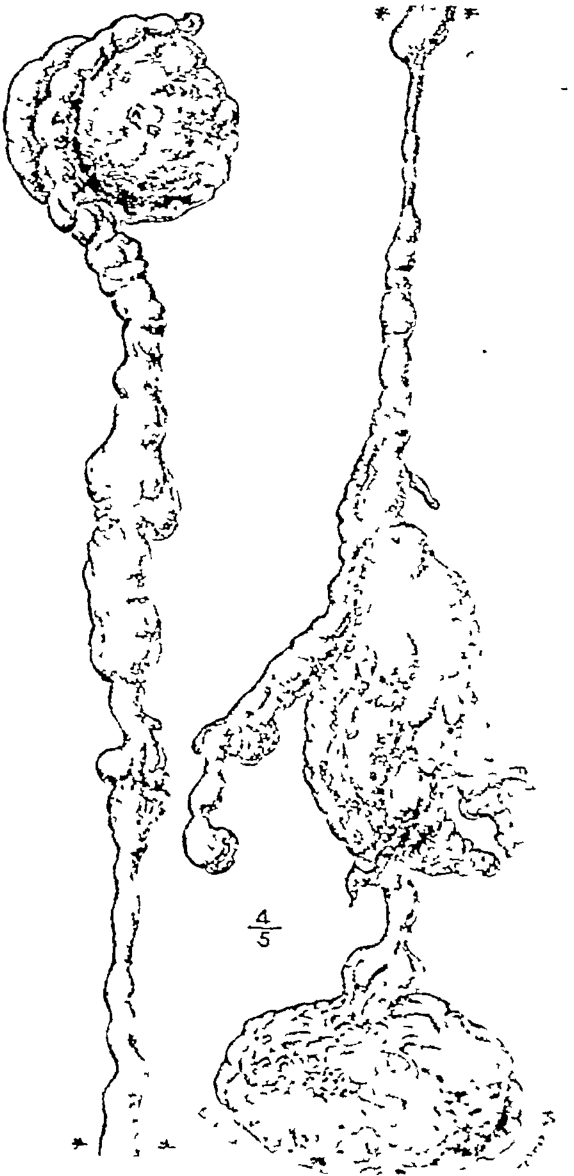


A gravid Fallopian tube with a circular perforation due to erosion by the chorionic villi. The patient was in the seventh week of her tenth pregnancy when she was seized with abdominal pain and died in ten hours. (Museum of St. Bartholomew's Hospital.)

DISSEMINATION.

In reflecting on the dissemination of cancer by the blood-stream it has often struck me, as it must certainly have occurred to others, that minute cancerous particles ought theoretically to be present in the blood stream and often in considerable number in order efficiently to account for the multitude of secondary nodules sometimes found in cancerous individuals, especially if allowance be made for a proportion which fail to grow after their arrest. No one so far as I know has ever detected in the course of an examination of blood withdrawn from a living person microscopic cancerous particles. That cancer does involve the walls of blood-vessels and even the thoracic duct is well known, and an excellent example of this is represented in Fig. 3; the receptaculum chyli and the thoracic duct are solid throughout in consequence of cancerous

FIG. 3.

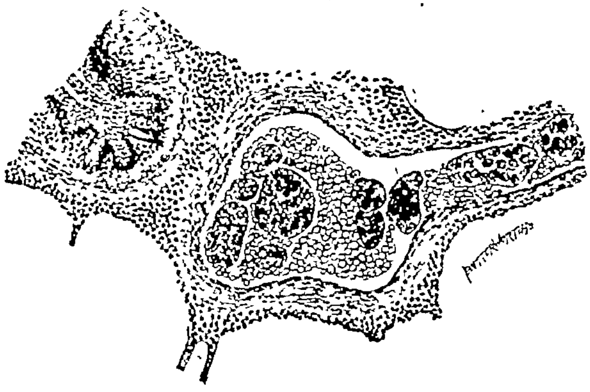


A thoracic duct and receptaculum chyli permeated throughout by cancer. The primary growth arose in the rectum. The specimen described and figured by Hilton is in the Museum of the Middlesex Hospital.

implication of its walls. In this instance the primary cancer arose in the rectum. A microscopic examination of the thoracic duct shows that its lumen is not merely blocked with cancerous elements resembling clot in a thrombosed vein but its walls are infiltrated and their proper tissue replaced by the cancerous tissue. Several careful descriptions of similar specimens have been described where the primary focus was situated in the stomach, uterus, or rectum. It is a curious and unexpected feature of cancerous blocking of the thoracic duct that it does not lead to any symptom indicating obstruction to the flow of chyle into the innominate vein. This is also the case when in the course of an operation at the root of the neck on the left side the duct has been injured such injury is followed by a flow of chyle and the patient rapidly emaciates; if then the duct be ligatured no inconvenience is produced and the patient recovers without any permanent ill-effects. A study of cancerous infiltration of the thoracic duct throws clear light on the enlargement of the lymph glands at the root of the neck, which is a frequent clinical feature of cancerous disease of the lower section of the œsophagus and stomach. A large hard lymph gland in the neck just above the clavicle in an obscure abdominal case has been considered for many years as an indication of the existence of cancer in, or in the near neighbourhood of, the stomach.

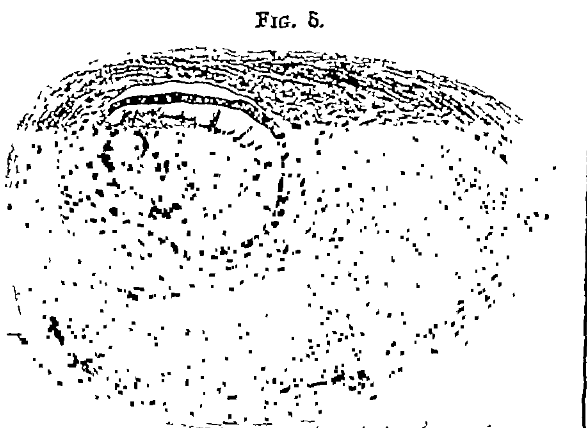
No observer has attempted to deny that cancer cells enter the blood stream; they gain access to it by implicating small veins, or by way of the lymphatics, and enter it through the thoracic duct; few observers have succeeded in determining what happens to the cancer particles which succeed in passing into the blood stream. Some observations of great interest in *relation to this* have been made by M. B. Schmidt (Jena) which go to show that the blood is in a sense *hostile to such particles*, and his observations show that embolic infection of the lungs occurs with great frequency when *cancer occurs primarily* in the abdominal viscera, and that the nodules may be abundant in the pulmonary vessels yet the lungs appear normal to the naked eye.

FIG. 4.



A pulmonary capillary containing cancerous emboli (after Schmidt).

FIG. 5.



A cancerous embolus in a pulmonary capillary imbedded in a thrombus (after Schmidt).

The behaviour of the blood to cancerous intrusions as investigated by Schmidt is quite remarkable. When the cells enter the blood they excite thrombosis and the *thrombus contracts upon the cancer cells* and may ultimately destroy them. (Figs. 4 and 5.) Goldmann has also *shown that the thrombosis of the blood* in a vein implicated by cancer may serve as a barrier to cancerous invasion of the *blood contained in it. This defending power* of the blood is a very important fact, as it prevents the blood-stream from being *colonised, and the destructive power* of the blood in relation to cancerous emboli offers, as Handley points out, an *explanation of the fact* established by Teacher, that chorion-epithelioma, the only cancer certainly known to spread *habitually by the blood, ends oftener* than any other form of cancer in spontaneous cure, after incomplete operations on the *primary growth*. The detection of *this* prophylactic action of the blood against cancerous particles is very important and as interesting as its phagocytic action against bacterial invasion.

PERMEATION.

In opposition to the old idea that the dissemination of cancer throughout the body depends on the invasion of the blood, and which is no longer tenable, we must accept the conclusions formulated by Mr. W. S. Handley as a result of careful investigation on the spread of cancer by way of the lymphatics. This observer has made a painstaking investigation of the relation of cancer, particularly in relation to lymphatics, and shows that when cancer implicates or permeates lymph-vessels it does not excite thrombosis and that the dissemination of the cancer takes place almost entirely by the lymphatics. The outcome of this investigation is of very great value and throws some light on some otherwise unaccountable complications of cancer which are of clinical value. Handley has shown that when the breast is attacked by cancer the cells implicate the lymphatics in the underlying fascia and slowly invade them, and in an insidious way spread throughout the body not only centrifugally, but where the fascia *comes into relation* by means of lympathics with the great cavities of the body, pleural and peritoneal, the *cells spread to the serous* membrane and in time cells invade the cavities and becoming *engrafted upon the serous surface* of lungs, liver, intestines, omentum, and the like, find an environment admirably *suited to their multiplication*.

There is one aspect of these important observations which has a peculiar interest for me. From the earliest part of my professional career I have taken a deep interest in the pathology and surgery of the abdominal and pelvic viscera, and for many years I was puzzled by the fact that although when cancer arises in organs like the breast, eyeball, or testicle, tongue, or lip, it is almost invariably unilateral, whereas in the case of the ovary carcinoma is usually bilateral. This led me to suspect that in many instances bilateral cancer of the ovaries might be secondary, especially as it was recognised in the course of post-mortem examinations that nodules of cancer in the ovary were of frequent occurrence in individuals dying from this disease attacking the breast or the stomach primarily; even then the frequency with which secondary masses of mammary or gastric cancer attacked both ovaries was a striking feature. The cases, however, which more particularly arrested my attention were those in which the ovaries formed large masses, sometimes almost as big as a football, and in which there were no suspicion that a primary focus existed elsewhere. Handley's observations, however, show us that when the cancer cells creep along the fascia and find their way to peritoneum, especially in the neighbourhood of the epigastrium and umbilicus, in which situation they come into relation with the round ligament of the liver and then invade the peritoneum, the cells colonise the peritoneal fluid and by force of gravity find their way into the pelvic cavity and become implanted on the ovaries and the uterus. It is clear that the ovaries offer a favourite nidus for the growth of cancer cells. It is now an established fact that a large proportion of the cases of bilateral cancerous ovaries are examples of engrafted or sown cancer and they are *often secondary to* carcinomatous infection of the gastro-intestinal tract. In years gone by many of the patients from whom bilateral *malignant* tumours of the ovary have been removed died with signs of intestinal obstruction, often *within a few months of the* ovariotomy, and the opinion used to be held that this was due to recurrence or dissemination of the growth; now we know that it is the other way about—the patient has had a slowly growing primary cancer in the pylorus or the colon, situations where carcinoma is often of notoriously slow growth; permeation of the gastric or intestinal walls slowly continues and then the peritoneum is invaded and the peritoneal fluid colonised; the cancer cells, finding a favourable nidus in the ovaries, give rise to large cancerous masses obvious to the simplest methods of clinical examination. The proof that these bilateral malignant ovarian tumours are secondary depends on the fact that their microscopic characters vary with the situation of the primary tumour; if the breast be the primary seat the masses in the ovaries will be identical with mammary cancer; if in the gastro-intestinal tract they will exhibit the structural characters of pyloric, colic, or rectal cancer, as the case may be.

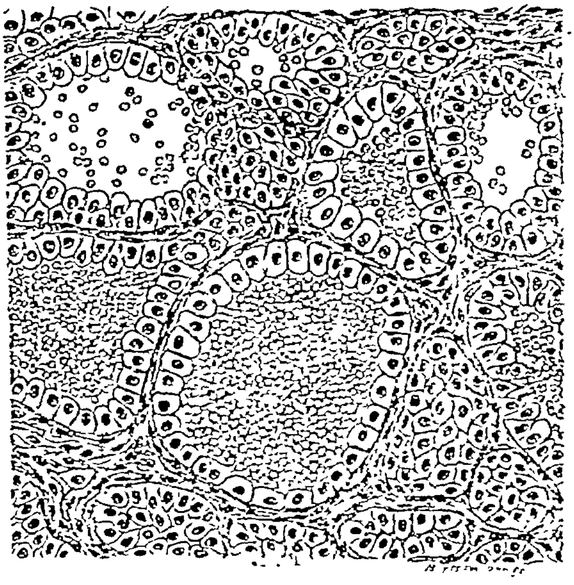
In one year I had the opportunity of studying five examples of this complication and among these patients one was a woman, 59 years of age, who had a large abdominal mass furnishing the clinical signs of an ovarian tumour associated with symptoms of intestinal obstruction. After a careful examination of the patient I came to the conclusion that she probably had cancer of the colon with secondary masses in the ovaries. I succeeded in removing the large bilateral ovarian tumours, one of which was as big as the woman's head and the other equalled her fist in size. On carefully examining the intestines I found a cancer at the ileo-cæcal valve and in order to prevent her dying from intestinal obstruction I joined a loop of ileum by a lateral anastomosis with the ascending colon. The patient made an excellent recovery and was known to be alive six months later. The structure of the ovarian tumours corresponded with that of a typical cancer of the colon.

Like many other workers who have devoted attention to the histology of tumours, I have been greatly perplexed by the identity of the secondary growths with the primary tumour, which in many instances is so complete that a competent histologist on examining microscopically a secondary nodule of cancer in the skin, brain, or in the eyeball can tell with reasonable, and occasionally with absolute, certainty that the primary growth arose in the breast, the stomach, or the rectum. Now we know that in the majority of instances cancer is disseminated by permeation and that the metastatic deposits are actually due to transplantation of fragments of cancerous tissue, it ceases to be surprising that these grafts should give rise to tumours like those to which they originally belonged, any more than that a twig of rue or a sprig of rose should if it take root produce a rue bush or a rose tree. It is, however, a matter of common observation that there are certain situations and organs in the body which are extremely favourable to the vitality of cancerous particles and in this particular the parable of the sower applies as well to the sowing of cancer cells as to the dispersal of seed. In the case of cancer, the liver and the ovaries are the most fertile situations in which cancerous particles can lodge. In regard to the liver Hillier suggests that the massive formations of secondary cancer so often seen in this organ may depend on its large size, small proportion of connective tissue, and its abundant blood-supply copious and rich with food products. Cancerous growths contain a large amount of glycogen and this substance existing in the hepatic cells may also be a favouring condition.

ENDOTHELIOMATA.

From the histologist's point of view there is no difficulty in distinguishing between typical examples of cancer and sarcoma, but there is a remarkable group of tumours displaying malignancy but in this respect holding an intermediate position between the cancers and sarcomata which arise from endothelium, and named in consequence endotheliomata. Tumours of this group arise from endothelium lining blood-vessels, lymph vessels, and serous membranes, and they are divided into species according to the primary structure from which they start: thus, a tumour arising from the endothelium of a blood-vessel would be a hæmendothelioma (Fig. 6), and one originating from lymphatics would be termed a lymphendothelioma. Such tumours are not uncommon in connexion with the gums and the nasal mucous membrane; the salivary glands, especially the parotid; and they are met with in the skin, starting from moles and warts. Endotheliomata also arise from the pleura and peritoneum. The majority of the tumours now classed as endotheliomata were formerly assigned to the sarcomata, and the interesting species now known as perithelioma was identified by Ziegler as angeio-sarcoma and regarded as a sarcoma arising from the walls of arterioles. Its microscopic structure is well shown in Ziegler's well-known drawing (Fig. 7) taken from a specimen which occurred in the thyroid gland. I have recently removed a perithelioma of this kind which grew in the gall-bladder.

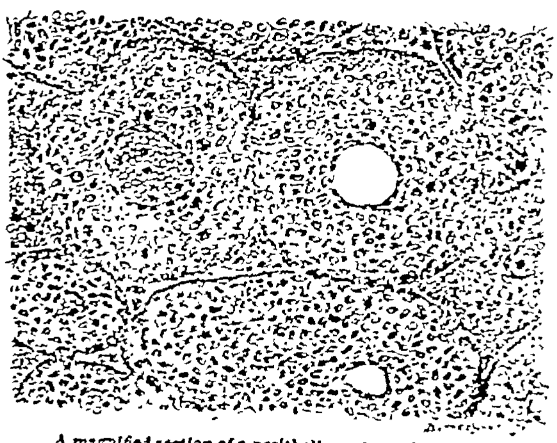
FIG. 6.



A magnified section of an endothelioma from the kidney (after Ziegler).

It is possible that the malignant tissue in a perithelioma arises from the perivascular lymphatics. Although from the clinical point of view the endotheliomata may for convenience rank with the sarcomata, they possess well-marked histologic features and are worth careful study, but in connexion with the object of this lecture they are especially interesting inasmuch as they prove that the inconspicuous flattened epithelium (endothelium) lining small blood- and lymph-vessels is liable, like the large columnar cells of the intestine and the active secreting cells of a gland, or the aggressive epithelium of the chorionic villus, to take on a malignant action and form a tumour which may in the course of a few months destroy the life of the individual. Some endotheliomata are of very slow growth and may exist for 20 years or more merely causing unsightliness, then without any obvious reason grow rapidly and kill.

FIG. 7.



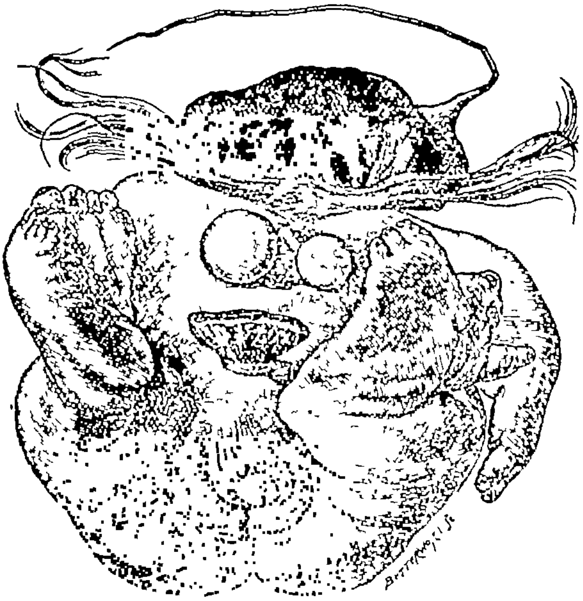
A magnified section of a perithelioma from the thyroid gland (after Ziegler).

MALIGNANT EMBRYOMATA.

Up to this point I have endeavoured to show that when any cell in the body exhibits malignant changes it is thereby impelled not merely to multiply but it assumes constructive functions; thus connective-tissue cells under this impulse not merely forms more connective tissue but they may produce hyaline cartilage, bone, and even striated muscle tissue. Glandular epithelium under malignant stimuli will reproduce the pattern of the gland to which it belongs—mammary, colic, uterine, thyroid, or the like. We now proceed to discuss an even more remarkable aspect of malignant construction—namely, that manifested by the sex cells.

It has been long recognised that homologous twins are the production of a single ovum, and it also is known that those remarkable twin aberrations in which the second individual hangs like a parasite to an otherwise normal individual is, so far as concerns the autosite, an absolutely harmless though often a highly inconvenient partnership in cases where the undeveloped twin is attached externally. More rarely the undeveloped twin occupies one of the great internal cavities of the body (pleura or peritoneum) and is then termed an internal teratoma. Some recent observations have indicated that internal teratomata are by no means harmless. Internal teratomata are found occasionally in any of the great cavities of the body, including the cranium, thorax, abdomen, and pelvis. In the cranial and thoracic cavities they are rarely more complex than a dermoid, such as is so common at the angle of the orbit. In the thoracic cavity they may contain formed organs, and in the abdomen they have been found to possess such completely formed limbs that there can be no doubt concerning their nature. A remarkable example of this is shown in Fig. 8.

FIG. 8.



An internal teratoma from the abdominal cavity (after Young, 1808).

Internal teratomata of this character are usually contained in a cyst. These highly developed internal teratomata we have always been accustomed to regard as perfectly innocent masses but our belief in this received a rude shock when Ritchie described an example which occupied the mediastinum and destroyed the life of a man 24 years of age. A microscopic examination of this tumour disclosed the presence of tissue identical with that seen in the malignant chorion-epithelioma and it had given rise to secondary deposits in the liver and lungs.

In dealing with parasitic fœtuses and teratomata a great difficulty arises, for, strange as it may sound, these tumours in their typical forms are as easily distinguished from the common dermoid as a butterfly from a buttercup, and arise like homologous twins from dichotomy of the sex cell (ovum), yet in their simplest forms they are so difficult to distinguish that it is impossible to assign them with certainty to a particular genus; it is to my mind one of the most remarkable facts in relation with malignancy to find a group of tumours with a well-developed twin at one end and a highly malignant tumour at the other. It is true that every genus of the so-called benign tumours (except lipomata) contains varieties which shade away indefinitely from the type species and display malignancy, but there is nothing in the whole range of oncology so remarkable as the malignant aberrations of tumours derived from the sex cells. We have yet to consider the embryomata. It has been maintained by several writers during the past 15 years, myself among them, that dermoids of the ovary differ in so many respects from those found in connexion with the embryonic fissures (sequestration dermoids) that they have a distinct genetic origin and the results of modern investigation serve to show that there is a complete series between the simple single chambered ovarian cyst and the very complex ovarian embryoma which contains in a confused heap all the tissues which compose the body, including muscle, nerve, and specialised epithelial stuff like enamel-organs and retinal pigmented cells. Moreover, we have come to recognise, thanks to Wilms, that even the simplest ovarian dermoid contains evidence of its origin from a sex-cell (ovum). These tumours consist of a cavity filled with grease and shed hair; at one part of the cyst wall there is usually a skin-clad area of variable extent covered with hair; associated with this surface there is usually an embryonal rudiment in the form of a teat or nipple-like process (pseudo-mamma); its size varies greatly, and often it is inconspicuous and easily overlooked; in others it is so large as to strike the eye of the least observant. The tissues in this embryonal rudiment are often most diverse; I have found fat, cartilage, bone, muscle, nerve, epithelium of all kinds, thyroid gland, teeth, hair, sebaceous glands, and retinal epithelium. It is now maintained by some writers that the embryonal rudiment represents the imperfect development of a sex cell and that the cyst has formed around it in response to the irritation and accumulation of the hair and shed epithelium and grease. There is another variety of ovarian dermoid which manifests itself as a solid growth with small cystic spaces dotted throughout and there is no definite limiting cyst wall. When the solid parts of these tumours are examined they exhibit in confusion the elements of an adult body in the form of glands, epithelium, teeth and hair in process of development, nervous tissue, and connective tissue in all stages of growth, &c. It is useful to refer to these as "solid embryomata" or teratomata in contrast to the common form of ovarian dermoid which may be termed "cystic embryoma" of the ovary. The relationship of the two conditions is shown in the fact that a cystic embryoma and a solid embryoma may co-exist in the same ovary. There is, however, a great clinical difference in the behaviour of these two varieties of ovarian embryomata, for observation has taught us that the solid variety is an intensely malignant tumour.

I have always regarded the typical ovarian dermoid (cystic embryoma) as one of the most benign tumours which attack woman. There is an interesting phenomenon connected with them requiring consideration and which I named epithelial infection. It has been observed in association with a dermoid which has burst into the peritoneal cavity that the serous membrane has been dotted with minute nodules furnished with tufts of hair; some of them were sessile on the peritoneum and others hung on slender pedicles or lodge among adhesions. This condition may be explained by regarding the nodules as arising from the epithelium shed by the burst cyst becoming engrafted on the surface of the peritoneum; moreover, a careful histologic examination of the sessile nodules shows that the connexion is in the nature of a graft, for the tissues of the nodules do not infiltrate the membrane on which they grow.

In the case of solid embryomata the story is different, for it has been discovered that when these tumours exhibit malignancy they manifest it like the true cancers—that is, by dissemination and recurrence after removal. The metastatic deposits in the peritoneum may take the form of grafts, as in the case of cystic embryomata but in the deadly forms the metastasis is probably due to the circulation, because in some instances secondary deposits have been found in the lungs, brain, and in the substance of the liver. The remarkable feature in connexion with malignant embryomata is the complex character of the secondary deposits, for they may contain like the parent tumour hair, glands, hyaline cartilage, and occasionally neuroglia and nerve cells. A large proportion of the recorded examples of these tumours occur in girls and among the recorded cases (about 20 in all) half the number of the patients were under 16 years. The youngest patient was four and the oldest 30 years of age. the earliest examples was observed by Jessop (1871) in a girl of 13 years.

It must not be forgotten that those large multilocular tumours of the ovary which are best described as ovarian adenomata, and the loculi of which are lined with large mucin cells, behave exactly like the hair-bearing embryomata, for they sometimes burst and infect the peritoneum with cells which engraft themselves on the serous membrane, but there are varieties which behave like the malignant solid ovarian embryoma and recur rapidly after removal, disseminate widely, and destroy the patient in a few months. The interest which surrounds this group is due to the fact that we have to deal with tumours arising in the epithelium of the ovarian follicle and in the sex cells which may be as benign as simple fatty tumours, or as malign as the deadliest cancers or sarcomata and yet capable of producing the most complex and specialised tissues found in the body, not merely in the tumours themselves but in the metastatic nodules which they originate; thus any theory invented to account for sarcomata and carcinomata, and in fact any form of malignant tumour, will have to explain these extraordinary aberrations of the sex cells.

We have hitherto believed that the sex cells (ova) remain passive until they are stimulated into activity by a spermatozoon; there are reasons for believing and observations which support the belief that asexual division may occur whilst the ovum is still in its follicle, and a fair amount of activity prevails among the chromosomes of ova immediately preceding their maturation. These changes are important in connexion with the remarkable cytological observations of Farmer, Moore, and Walker in regard to the gametoid type of cell division which occurs in the essential cells of malignant tumours. Observations of this kind tend to place speculations on the cause of malignant disease in a new light, for we must now realise not only that it is something which exercises a malign influence on the cells of formed tissues, but it has a potent influence even on the sex cells, and that the liability to malignancy besets every cell of the body from the earliest period of embryonic life to extreme old age.

A Clinical Lecture

ON

PELVIC APPENDICITIS WITH PAR-APPENDICAL ABSCESS AND CYSTITIS.

Delivered at the General Hospital, Birmingham, on Feb. 8th, 1907,

BY GILBERT BARLING, M.B. LOND., F.R.C.S. ENG.,

SURGEON TO THE HOSPITAL.

GENTLEMEN,—At my last ward demonstration I discussed with you the case of this patient because of some unusual features which it presented and because of the difficulties in diagnosis which it provided. When we first met to consider the case you had an opportunity of examining the patient under an anæsthetic and so of interrogating with your own fingers the local condition present in the lower abdomen and pelvis. The trouble for which the man was admitted to hospital was a most striking cystitis and I ventured to tell you at the examination that the explanation of his illness would be found in his abdominal cavity and that he would have to be treated by abdominal section. To-day I am able positively to confirm this opinion and I propose to go fully over the whole case again, not only because of its extreme interest per se, but because it illustrates a serious condition which has not received the recognition due to it.

The patient is a male, aged 42 years, sallow and anæmic, volatile, neurotic, and very difficult to obtain a connected history from; he wishes, as many patients of this type do, to interpret his own symptoms and to explain away any that he thinks are threatening; this, I believe, is responsible in part for the delay in recognising the nature of his disease. He tells us that his bladder symptoms first arose in January, 1906, when he "caught cold"; this caused him to micturate frequently and with pain, whilst he had also pain across the loins. He was told by his medical adviser that he was suffering from cystitis; later both testicles swelled and became very painful and in the opinion of a physician the patient was suffering from gout. The illness on this occasion lasted 23 weeks, after which time he resumed his duties as a clerk and continued to work steadily until admission to hospital on Jan. 23rd, 1907, though he felt ill and from time to time sought medical advice. We learn that his bladder has been sounded for stone on two occasions and according to his own account he has received many different diagnoses of his case. For the last two months the acute condition in his bladder from which he suffered a year ago has returned, there has been very frequent and painful micturition day and night, and the urine has been very offensive. The patient's past history tells much of interest when it has been cleared of verbiage and explanations. Ten years ago he experienced an attack of acute abdominal pain in the region of the umbilicus, lasting from three to four days; it was accompanied by vomiting and followed by constipation only overcome by strong aperients. Since that time many such attacks have occurred, on the average about three in a year, some quite slight, others more severe, the worst compelling him to stay in bed for a fortnight. The only other points in the history are a statement that he was treated for syphilis by a quack, but there is little probability that he really suffered from this disease, and there is certainly no evidence than he did. Rheumatic fever occurred at five years of age. Summing up all these details it seems clear that the patient had cystitis for the first time a year ago, that he has since not been entirely free from it, though he has for the last few months managed with difficulty to go on with his work. Prior to the cystitis he had numerous acute abdominal attacks spread over years and recurring at varying intervals up to the present time.

On examination the lower abdomen was full but not rigid, just inside the brim of the pelvis on the right side some slight thickening could be detected, but the right iliac fossa was free from tenderness and swelling. Per rectum the finger detected much thickening and infiltration of the anterior rectal wall and the base of the bladder behind the prostate, some fulness was felt on the right side, but on the left a large dense mass of much greater extent than on the right; it was fixed, leathery in consistence, and non-fluctuating, whilst the rectal mucous membrane was free from œdema. Cystoscopic examination detected only a diffuse inflammatory condition of the mucous membrane of the bladder, no ulceration was observed, nor any abscess discharging into the bladder. The testicles appeared to be healthy and no nodules suggestive of tubercle could be detected in either. Examination of the urine showed a large amount of pus but tubercle bacilli were not found. The patient's temperature was 100° F. on admission and the pulse ranged from 60 to 90.

Our investigation so far appeared to show that the cystitis was not tuberculous in origin, ulceration of the bladder was absent, no tubercle bacilli could be found in the urine, and there was no evidence of tubercle elsewhere in the patient's system. I lay stress on these points because the dense thickening felt per rectum was consistent with a tuberculous peritonitis which provides so many surprises in the abdominal cavity. The absence of calculus and of tumour in the bladder as the cause of the cystitis had also been demonstrated. I pointed out at our first examination of the patient the probability that the key to his present condition was to be found in his past history of acute abdominal attacks; these were very suggestive of attacks of appendicitis. The absence of an inflammatory thickening in the right iliac fossa was not inconsistent with this, for in many patients the appendix lies in the pelvis and in that cavity we find the result of the inflammatory process, pus and adhesions, which have their starting-point in appendical inflammation. To-day I am able to confirm this view from what was found at the operation performed five days ago. The abdomen was opened in the middle line just above the pubes; the vermiform appendix was found densely adherent on the right side of the pelvis and surrounded by a collection of pus which amounted to a few drachms. Further stripping of adhesions

MALIGNANT EMBRYOMATA.

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It has been long recognised that homologous twins are the production of a single ovum, and it also is known that those remarkable twin aberrations in which the second individual hangs like a parasite to an otherwise normal individual is, so far as concerns the autosite, an absolutely harmless though often a highly inconvenient partnership in cases where *the undeveloped twin is attached externally*. More rarely the undeveloped twin occupies one of the great internal cavities of the body (pleura or peritoneum) and is then termed an *internal teratoma*. [Some recent observations have indicated that internal teratomata are by no means harmless. Internal teratomata are found occasionally in any of the great cavities of the body, including the cranium, thorax, abdomen, and pelvis. In the cranial and thoracic cavities they are rarely more complex than a dermoid, such as is so common at the angle of the orbit. In the thoracic cavity they may contain formed organs, and in the abdomen they have been found to possess such completely formed limbs that there can be no doubt concerning their nature. A remarkable example of this is shown in Fig. 8.

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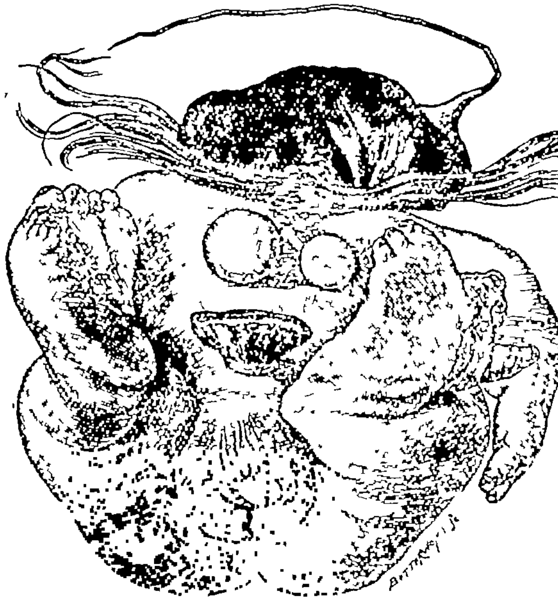

An internal teratoma from the abdominal cavity (after Young, 1808).

Internal teratomata of this character are usually contained in a cyst. These highly developed internal teratomata we have always been accustomed to regard as perfectly innocent masses but our belief in this received a rude shock when Ritchie described an example which occupied the mediastinum and destroyed the life of a man 24 years of age. A microscopic examination of this tumour disclosed the presence of tissue identical with that seen in the malignant chorion-epithelioma and it had given rise to secondary deposits in the liver and lungs.

In dealing with parasitic fœtuses and teratomata a great difficulty arises, for, strange as it may sound, these tumours in their typical forms are as easily distinguished from the *common dermoid* as a butterfly from a buttercup, and arise like homologous twins from dichotomy of the sex cell (ovum), yet in their simplest forms they are so difficult to distinguish *that it is impossible* to assign them with certainty to a particular genus; it is to my mind one of the most remarkable *facts in relation* with malignancy to find a group of tumours with a well-developed *twin at one end* and a highly malignant tumour at the other. It is true that every genus of the so-called benign tumours (except lipomata) contains varieties which shade away indefinitely from the type species and display malignancy, but there is nothing in the whole range of oncology so remarkable as the malignant aberra*tions of tumours derived from the sex cells*. We have yet to consider the embryomata. It has been maintained by several writers during the past 15 years, myself among them, that dermoids of the ovary differ in so many respects from those found in connexion with the embryonic fissures (sequestra*tion dermoids*) that they have a distinct genetic origin and the results of modern investigation serve to show that there is a complete series between the simple single chambered ovarian cyst and the very complex ovarian embryoma which contains in a confused heap all the tissues which compose the body, including muscle, nerve, and specialised epithelial stuff like enamel-organs and retinal pigmented cells. Moreover, we have come to recognise, thanks to Wilms, that even the simplest ovarian dermoid contains evidence of its origin from a sex-cell (ovum). These tumours consist of a cavity filled with grease and shed hair; at one part of the cyst wall there is usually a skin-clad *area of variable extent covered with hair; associated with* this surface there is usually an embryonal rudiment in the form of a teat or nipple-like process (pseudo-mamma); its size varies greatly, and often it is inconspicuous and easily overlooked; in others it is so large as to strike the eye of the least observant. The tissues in this embryonal rudiment are often most diverse; I have found fat, cartilage, bone, muscle, nerve, epithelium of all kinds, thyroid gland, teeth, hair, sebaceous glands, and retinal epithelium. It is now maintained by some writers that the embryonal rudiment represents the imperfect development of a sex cell and that the cyst has formed around it in response to the *irritation and accumulation of* the hair and shed epithelium and grease. There is another variety of ovarian dermoid which manifests itself as a solid growth with small cystic spaces dotted throughout and there is no definite limiting cyst wall. When the solid parts of these tumours are examined they exhibit in confusion the elements of an adult body in the form of glands, epithelium, teeth and hair in process of development, nervous tissue, and connective tissue in all stages of growth, &c. It is useful to refer to these as "solid embryomata" or teratomata in contrast to the common form of ovarian dermoid *which may be termed* "cystic embryoma" of the ovary. The relationship of the two conditions is shown in the fact that a cystic embryoma and a solid embryoma may co-exist in *the same ovary*. There is, however, a great clinical difference in the behaviour of these two varieties of ovarian embryomata, for observation has taught us that the solid variety is an *intensely malignant tumour*.

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In the case of solid embryomata the story is *different*, for it has been discovered that when these tumours exhibit malignancy they manifest it like the *true cancers*—that is, by dissemination and recurrence after removal. The *metastatic* deposits in the peritoneum may take the form of grafts, as in the case of cystic embryomata but in the deadly forms the metastasis is probably due to the circulation, because in some instances secondary deposits have been found in the lungs, brain, and in the substance of the liver. The remarkable feature in connexion with malignant embryomata is the complex character of the secondary deposits, for they may contain like the parent tumour hair, glands, hyaline

Most observers are well agreed that the supply of meats f all kinds should be lessened below the proportion ordiarily taken, and some are satisfied merely to reduce r to disallow the red meats (beef and mutton), hile they permit the taking of white and young eats (fish, poultry, veal, &c.) in ordinary quantities. hough the practitioner nearly always is inclined to select hat are called lighter meats, I cannot say that I have bserved any difference of effect on the arterial pressure of he various forms of roast or fried meats—whether as beef, mutton, fish, poultry, &c. A more important difference in this respect seems to me connected with the way in which the meats are cooked—whether roasted and taken with the gravy, or boiled and served without the broth. I therefore make it a rule in these cases to substitute as much as possible boiled for the roasted or fried forms of fish, fowl, beef, mutton, &c.; and to exclude from the dietary meat extractives, such as meat soups, gravies, &c. The proportion of green vegetables and fruits should be increased and carbohydrate foods may be taken in moderation. As a rule I think the cases do best on the reduction of an ordinary diet as a whole, with a diminution of the animal and an increase of the vegetable derived food-stuffs. The reduction of the ingesta to physiological needs and expenditure is particularly important in the management of cases of high arterial pressure; for some such patients who are inactive feel weak and run down and crave for the stimulant effects of tonics and a full meat diet, with excess of salt and other condiments and sometimes of alcoholic drinks.

The question of fluids—their nature, quantity, and best time for their ingestion—is not a matter of indifference. The bulk of the meals should be kept down by reducing the quantity of fluid taken with them. Fluid, of which the best is water, should be taken more freely when the stomach is empty—e.g., a tumbler an hour before meals or night and morning. Preference should always be given to soft or distilled and non-aerated water; or to mildly alkaline waters, as potash and soda salts improve the peripheral circulation; and it is best generally to advise the water to be taken warm. Hard water—i.e., water containing calcium salts in such proportion as to raise the hardness above five degrees—is best avoided, especially in the elderly with a premature rise in the arterial pressure, in whom there may be an inadequate elimination of calcium salts by the bowels and kidneys. Though calcification is generally believed to follow and not to precede degeneration or involution it may turn out that inadequate elimination may lead to the deposition of calcium salts in the arteries, kidneys, and other tissues of the aged[3] As the combination of calcium with an organic acid (e.g., citric) deprives the calcium ion of its specific physiological effect on the blood,[4] the addition of lemon juice to hard water may be a useful corrective in the elderly and gouty.

The question of beverages, such as tea and coffee, is still somewhat unsettled, some observers regarding them as particularly injurious. Long-continued indulgence in strong tea and coffee is, I think, injurious but I see no objection to these beverages in strict moderation, and when their ingestion is not followed by disturbing results, such as palpitation, flushing, giddiness, or wakefulness. As to alcoholic beverages my impression is that high-pressure cases as a class are better without them, but that many cases of moderate or slight increments of pressure may be allowed small quantities without injurious effects, especially if, as a rule, we exclude wines and beer. There is no doubt that when the vaso-motor system is intact alcohol (as in the form of whisky or gin) is vaso-dilator and has but a transitory effect in raising the systolic pressure. The latest experimental work on alcohol (that of Professor W. E. Dixon of Cambridge)[5] shows that in moderate doses alcohol in normal animals and in man may raise the systolic pressure a little (and especially in animals showing signs of circulatory failure) but it may fail to do so, while it diminishes the diastolic pressure ("in other words the difference between the systolic and diastolic pressure tends to increase"), and that it increases the activity and output of the heart, an effect which is ascribed to the fact that alcohol is a readily assimilable food substance.

Chloride of sodium as a constituent of foodstuffs and as a condiment deserves some notice in the treatment of super-normal arterial pressure. The work of Widal and Javal[6] and other continental observers has shown that super-chloridation and superhydration of the tissues take place when the kidneys become impaired in their permeability to the passage of chlorides, as in chronic nephritis and probably in other phases of renal inadequacy not recognised as organic; and that some of the manifestations of Bright's disease (e.g., œdema, albuminuria, &c.) are closely associated with this tissue retention of chlorides and water and are relieved by a dechloriding diet. At present I cannot say from my own observation what is the rôle, if any, which the retention of chlorides plays in the production of the high ranges of arterial pressure which we meet with in chronic interstitial nephritis. Probably it is insignificant. To apply efficiently a dechloriding diet the mere omission of salt as a condiment is insufficient. We must besides this select those articles of food which in the uncooked state contain the least percentage of salt, and omit the addition of salt in their preparation for the table. The diet thus obtained is practically, though not absolutely, chloride-free. Such a saltless diet may consist of vegetable soups (made without meat stock), fresh green vegetables, fruits, nuts, fats (fresh butter, cream), salt-free bread, farinaceous vegetables (potatoes, rice, peas), and sugar. Dufour (in 1905), Guinon and Pater (in 1906), and Déléarde (this year) obtained excellent results from a dietary like this in scarlet fever and scarlatinal nephritis. But in chronic nephritis and in other cases of high arterial pressure such a strict chloride-free diet will scarcely be necessary, though it may perhaps be adopted with advantage for a while now and then when accessions of pressure arise. In fact, a saltless diet soon becomes so distasteful to the majority of patients that it is difficult for them to continue it for more than a week or two at a time. A strict milk diet, sufficient in quantity to maintain the health and condition of the patient—e.g., six pints a day—supplies to the system from 100 to 200 grains of salt (different authorities giving the salt percentage of milk as ranging from 1·6 to 3·0), so that such a diet is by no means saltless. Nevertheless, experience shows that a milk diet or a lacto-farinaceous diet for a few weeks has sometimes an excellent effect on high arterial pressure and on the general health.[7] Unfortunately, milk is often badly borne in these cases, especially when the bowels are inclined to constipation and the liver is inactive; but even then it may often be made to agree by adding to it citrate of soda or potash, or when there is gastric acidity sodii bicarbonas or liquor magnesii carbonatis. But a lacto-vegetarian diet is more suitable in most cases; a moderate daily quantity of milk (e.g., two or three pints) when taken with vegetable foodstuffs (bread, rice, green vegetables, and fruits) should not seriously raise the low percentage of ingested salt and, moreover, it advantageously increases the proportions of the proteid and fat, especially when combined also with cream, cheese, and eggs. Cheese in moderation is perhaps the least objectionable form of proteid food in these cases. Meats of all kinds contain even a smaller percentage of native chloride than that of milk; but the cardio-vascular stimulant effect of the extractives which they contain more than counterbalances any advantage they possess in their relatively low percentage of salt. Boiled meats, however, containing less salt and extractives than roast meat may be added to the dietary without disturbing its comparatively salt-free character. Fresh-water fish (such as trout, tench, pike, and crayfish), which contain much less salt than salt-water fish, may also be taken if we do not require to adhere to a strict minimum supply of ingested salt. The condiments—pepper, mustard, vinegar, lemon, &c.—none of which are contra-indicated, are useful in relieving the insipidity of the dechloriding diet.

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[3] An interesting communication, The Part Played by the Calcium Salts in the Blood and Tissues, appears in the British Medical Journal of April 27th, 1907, in which Dr. W. Blair Bell refers to three calcium physiological periods. "The third period is that of late life, when no calcium salts are required for the building up processes or for those of reproduction. These salts then accumulate in the tissues, especially in the vessels —— atrophy occurs, and the individual gradually declines."

[4] See J. Coleman: The Bio-Chemical Journal, April, 1907.

[5] The Action of Alcohol on the Circulation, by W. E. Dixon, M.A., M.D. Lond.

[6] Journal of Physiology, March, 1907. La Cure de Déchloruration, par le Dr. Fernand Widal et le Dr. Adolphe Javal, Paris, 1906.

[7] See an address on Arterio-sclerosis by Dr. W. P. Herringham, Brit. Med. Jour., vol. i., 1907, p. 61. According to the recent experiments of C. J. Coleman, milk as a diet does not appear to increase the coagulability of the blood, as much of its calcium content is not available as a factor in controlling the coagulation, for it is probably combined with organic (and not mineral) acids, which combination does not shorten the coagulation time. (The Bio-Chemical Journal, op. cit.) So it is not improbable that if calcium favours a rise of arterial pressure (vide sup.) milk may fail to do so, just as it fails to increase the coagulability of the blood.

detected another entirely separate collection of pus, most putrid in smell, some ounces in all, which lay between the rectum behind, the bladder in front, and the left wall of the pelvis laterally; this is what I refer to as a "par-appendical" abscess. The pelvis was drained by a Mikulicz gauze bag and the greater portion of the wound was sutured. The interval which has elapsed since the operation has passed satisfactorily, the general abdominal cavity has remained free from infection, the temperature is normal, the pulse is 80, the urine is free from smell and practically is free from pus, and the symptoms of frequent and painful micturition have disappeared.

Clearly the cystitis arose by infection from the abscess on the left side of the pelvis, not by the pus bursting into the viscus but apparently by continuity of tissue. In several hundred cases of appendicitis I have only once before seen this complication. The patient, a girl, aged 12 years, had been ill with appendicitis for two months and when transferred to my care was suffering from cystitis and an abscess in the pelvis. In this patient again the cystoscope failed to show any direct communication between the abscess and the bladder; the infection of the latter appeared to have arisen merely by the contiguity of the collection of pus. Thorough evacuation and drainage of the abscess cured the cystitis without any additional measures. Rare as is cystitis, pelvic appendicitis, on the other hand, is quite a common condition and not infrequently is overlooked. At the onset we find the symptoms which generally indicate appendicitis—pain *experienced* about the *central* area of the abdomen, vomiting, quick *pulse*, *elevation of temperature*; *local* tenderness, rigidity, or perhaps tumour in the right iliac fossa are absent, but the tenderness is found if looked *for* over the pelvic area. Constipation, so generally present in appendicitis, is *often* absent and diarrhœa takes its place; in addition, rectal tenesmus with small discharges of watery mucus at frequent intervals is complained of in some cases, difficulty in micturition also arises and pain after the act is then generally present, and occasionally retention of urine occurs. When symptoms suggestive of appendicitis arise and the local phenomena in the right iliac fossa are absent, examination by the finger in the rectum will often recognise an inflammatory swelling which explains the nature of the attack. The anterior wall of the bowel is found swollen, œdematous, and infiltrated; there may be a well-marked mass occupying a good deal of the pelvis, capable of being palpated bi-manually. A softened, almost fluctuating, area may be detected in this, indicating a collection of pus just adjacent and suggesting an easy route for its evacuation; or, on the other hand, as in the patient under consideration, if the case is a chronic one the mass felt may be tough and dense to a degree quite precluding any attempt at opening through the rectum and requiring for its removal the opening of the abdomen.

Par-appendical suppuration is uncommon but can hardly be described as rare. It appears to arise in this way: the inflammatory attack starting in the appendix involves a considerable area of the peritoneal cavity, most often the pelvic cavity and parts adjacent. The patient struggles on, part of the sero-purulent fluid is absorbed and localised pockets of pus well circumscribed by adhesions are left; the infection remains alive but does not spread. One of these pockets of pus is usually but not always found around the adherent appendix, the other or others at some distance, but commonly in the pelvic cavity. Whilst this man whose case I have taken for my text has been in the ward a little child has been admitted with a similar condition. Three months ago the abdomen was opened and pus was let out, but the cause of the abscess does not appear to have been determined. Since that operation three acute abdominal attacks have occurred and three days ago I re-opened the abdomen to find the appendix in the pelvis, perforated at its base and with a small abscess around it, whilst to the left of the middle line of the pelvis another much larger collection of pus was found quite shut off from that around the appendix. Examples such as this could be multiplied, but enough has probably been said to indicate to you the importance of these cases of pelvic appendicitis and the ease with which they may be recognised if proper investigation is made.

THE RED CROSS CONFERENCE.—It is announced that the King and Queen will receive the delegates to the International Red Cross Conference at Buckingham Palace on Saturday, June 15th. Levée dress will be worn at the reception.

SOME NOTES ON THE CONTROL OF SUPER-NORMAL ARTERIAL PRESSURE.[1]

BY GEORGE OLIVER, M.D. LOND., F.R.C.P. LOND.

I PROPOSE to submit for your consideration and discussion some of the conclusions respecting the treatment of super-normal arterial pressure, to which I have been led more particularly during the past few years. In doing so I cannot, however, hope to add much to your practical knowledge or to what has been already done by other workers; nevertheless, I trust these notes, which are the outcome of a large amount of observation in a field particularly well adapted to the clinical study of arterial pressure, may contain some suggestions which you may turn to good account in practice. We should keep in mind that though variations of the arterial pressure may produce certain pathological effects they themselves are but results. When, for example, the arterial pressure is raised but *temporarily* the *cause* may be, and, in fact, usually is, of nervous origin—either psychical or reflected; but when the pressure rise is persistent it may be regarded as the outcome generally of some alteration in the chemical composition of the plasma or of organic changes in the circulatory mechanism, which may or may not have themselves resulted from some bio-chemical cause. It follows, therefore, that in attempting to control a persistent rise in the arterial pressure we should if possible learn what are the etiological factors at work. *Unfortunately*, at present our knowledge in this direction is extremely limited and we must content ourselves with treatment on general lines, with the application of such practical suggestions as may be derived from physiology, which is, after all, the mother of medicine.

The method of observation followed.—I have employed the clinical fluid manometric method which was brought forward some years ago by Roy, Leonard Hill, and Riva Rocci, using more particularly the hæmomanometer which I described two years ago. I did not then realise that Leonard Hill was the first to apply the ordinary manometric *device* of fluid pressure on *both* ends of the index of a sphygmometer, as shown by the specification of his instrument patented in 1898 and recently brought under my notice, but not hitherto placed on the market. Having thus unwittingly devised the same mechanical arrangement, my instrument, though possessing certain distinctive features, will not be produced in its original form. I show you the model of an instrument on which I am now working. In it there is a simple combination of mechanical details not hitherto employed—so far as I know—which secures certain advantages; such as the impossibility of leakage (the apparatus being valveless) and the attainment of increased precision in reading the systolic and diastolic pressures. I also show you the hæmodynamometer, the pocket blood-pressure gauge which I introduced nearly ten years ago. With this instrument most of my earlier observations were made and I still find it convenient and accurate in clinical work. The pressure readings it affords are quickly made, without entailing discomfort to the patient or causing local or general disturbance of the circulation. It is therefore time-saving and is preferred by sensitive patients, who frequently resent circular compression of the arm, or even of the forearm, especially when high readings are necessitated by the arterial pressure. I have lately improved this instrument so that it now furnishes the systolic as well as the diastolic pressure.

Dietary treatment.—When the arterial pressure is raised the principal aim in our dietetic directions should be to select a diet which has the least stimulating effect on the circulatory organs. Hence we should reduce as much as possible not only the bulk of each meal but also the proportion of those constituents of the foodstuffs which more particularly stimulate the cardio-vascular apparatus, such as various salts, soluble extractives, active principles and other bodies (e g., alcohol), which are directly absorbed without change and may be regarded as exogenous hormones between the digestive tract and the circulatory apparatus, stimulating the heart on the one hand and the capillary circulation on the other.[2]

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[1] The substance of this paper was read at a meeting of the Therapeutical Society on April 16th, 1907.

[2] See some good illustrations of the value of this teaching in a recent paper by Dr William Russell, Brit. Med. Jour., vol. i., 1906.

temperature. But when the water contains or is charged with certain chemicals (such as chlorides, sulphides, extract of pine, peat, and carbonic acid) the lowering effect on the arterial pressure is prolonged. Hence the calmative influence of peat, sulphur, pine, saline, and carbonic acid baths followed by dry, warm packing on the circulatory organs and the nervous system, and their adaptability to the treatment of those cases of increased arterial pressure associated with some phase of nervous irritability, or with contraction of the cutaneous blood-supply and some inefficiency of the skin as an emunctory organ. A course of such bathing will produce good results, even when the arterial pressure is moderately increased. But I rarely find it desirable to rely upon these still baths entirely, for they are apt to leave the muscular system relaxed and toneless. They are more valuable as intercurrent baths in a course of massage bathing which exerts a more decided effect in lowering the arterial pressure while maintaining or even improving the nutrition and tone of the muscles. Warm massage douching, exemplified by the Aix-les-Bains douche followed by the needle bath of alternating temperature and warm pack, is, according to my observation, one of our most valuable balneological procedures for treating cases of super-normal arterial pressure. In it we have in synergic combination the action of warmth, massage, and vibration in diverting the blood to the peripheral vessels of the richly endowed vascular area of the muscles as well as that of the skin.

Electrical treatment.—D'Arsonvalisation. I have been occasionally struck with the beneficial effect of the D'Arsonval current—merely the general effect for 20 minutes daily. Bipolar massage with this current or the sparking application of it to the limbs and body is also now and then useful in addition. Dr. Montier has adduced some striking evidence[11] in support of the reducing effect of D'Arsonvalisation in hypertension, he having, for example, observed in some cases, even after a few séances only, a fall from such high readings as 220 or 230 mm. Hg to 150 or 160 —a fall which was, moreover, remarkably persistent notwithstanding the discontinuance of further electric treatment. I have not myself observed such encouraging results but my observations have shown that D'Arsonvalisation is often, and especially in elderly subjects, a valuable adjunct to other treatment (dietetic and balneological). Electric light and ozone baths, which secure active cutaneous elimination at a comparatively low temperature, have also proved useful in many of my cases. I have not seen any specially encouraging results in these cases from other forms of electric treatment, such as electric immersion baths (faradic or galvanic).

Care of the skin.—It is important in these cases to maintain the cutaneous circulation at its optimum efficiency. Warmth diverts to the skin a comparatively large volume of blood and this lowers the arterial pressure; hence the value of warm efficient woollen clothing and of warm equable climates (such as those of Jamaica, India, or Egypt) during our winter and spring months. Cold and especially cold windy climates are most injurious in high pressure cases. Cutaneous elimination should be encouraged; a thorough perspiration should be obtained once or twice a week by means of a lamp bath (home Turkish bath) or an incandescent light bath or a Turkish bath, followed by efficient massage and removal of effete epithelium. By active perspiration the plasma and tissue-fluids are relieved of an excess of sodium chloride and metabolic residua.

Venesection.—So far I have had no experience of venesection in the ordinary course of treatment of high-pressure cases, apart from the actual accidents of uræmia and cerebral hæmorrhage. Now that we have in the clinical manometer an instrument of precision to guide us in selecting the right case for venesection, should we not avail ourselves more often than we do of the rapid hypotensive effect of this measure when suspiciously threatening symptoms arise, or when in certain plethoric subjects a very high pressure does not respond sufficiently to the ordinary preventive measures, especially if the free use of vaso-dilators is not effectual? Under such conditions many years ago I used to apply Junod's boot, which acts like a magnified cupping glass, with apparently favourable results, but I think a limited venesection would be still more effectual than this. The apparatus consists of (1) a metal boot sufficiently large to accommodate the leg up to the thigh where the opening is rendered airtight by a broad band of india-rubber, and (2) an air-pump attached to a nozzle communicating with the interior of the boot through which the air within is rarefied.

Medicinal treatment.—Sometimes dietetic treatment, regulation of rest and exercise, and some balneological procedure—such as thermo-massage—will suffice to correct the increment of arterial pressure, more especially in its slighter degrees. But in most cases it will be found that some medicinal treatment or other in addition will be either useful in expediting the progress or will be necessary. That treatment may be directed into one or other of the following lines—namely (1) to secure (*a*) free evacuation and correction of the liver and bowels and (*b*) gastro-intestinal antisepsis; and (2) vaso-dilatation and sedation of the vasomotor nervous system.

I. *Evacuant and antiseptic treatment.*—There is no doubt that all forms of super-normal arterial pressure are benefited less or more by purgatives; not so much, however, by the occasional aperient dose as by a daily increased discharge from the bowels. The benefit thus derived may be ascribed to (1) the stimulation and correction of the liver and other abdominal glands; (2) the daily baling out through the intestinal mucous membrane of salt[12] and water from the blood and the tissues with stimulation of the intermediary circulation; and (3) the removal of intestinal toxins. To be efficient the aperient must produce a free watery discharge. Saline purgatives should be taken in hot water in the early morning, such as sodii sulphas or soda tartarata or sodii sulphas with magnesii sulphas, and in addition there should be an occasional mercurial dose—e.g., once or twice a week (calomel or pilula hydrargyri) at bedtime. Just now we regard the generation of toxins in the gastro-intestinal area (chronic intestinal auto-intoxication) as the possible, if not probable, cause of several ailments of obscure origin, such as gout, arterio-sclerosis, &c. Metchnikoff has shown us the importance of avoiding the ingestion of bacteria in raw fruit and vegetables by heating and cooking them. But cooking is objectionable in depriving certain raw fruits and vegetables of their delicate and appetising flavour. In the case of grapes, salads, and perhaps strawberries, we may, however, render them aseptic without impairing their natural flavour by dissolving one of Dr. Rideal's tablets of bisulphate of soda in ten ounces of water and using this as a wash water. Intestinal antiseptics are often useful when the arterial pressure is persistently raised, such as benzo-naphthol, salol, salacetol, and tylmarin (acetylated ortho-coumaric acid), which tend to ease the peripheral circulation like the other members of the aromatic series. Mercurials are also not only antiseptic but relax the arterial wall, and I have observed that parvule doses of calomel (tabloids of one-tenth grain) twice or three times a day may be taken for a few weeks now and then with a favourable effect on the arterial pressure. The red oxide of mercury tabloids ($\frac{1}{10}$th grain) are also worthy of a trial. Small daily doses of sulphur—such as the compound sulphur or the guaiacum and sulphur tabloids—are not only useful as laxatives but in favouring a fall of the arterial pressure.

II. *Apressor remedies.*—Arterial pressure may be reduced either by diminishing the output of the ventricle or by widening the bed of the whole arterial system and especially its peripheral portion. Experience shows that it is futile, if not injurious, to attempt to obtain a depressor effect and to maintain it by drugs, which lower the action of the heart. Just lately Coley of Philadelphia, for example, has show that such drugs as aconite, veratrin, antimony, and chloral, are unsatisfactory and scarcely justifiable remedies for the purpose of reducing the arterial pressure.[13] Our choice of apressor remedies is therefore restricted to those which favour dilatation of the calibre of the arteries and thus ease the flow of blood through the distal portion of the circulation. Their physiological action on the arterial pressure (distal and proximal) is easily demonstrated by the manometer in man by administering a dose of nitro-glycerine; and I have elsewhere shown how useful it is in the course of clinical observation thus to gauge the vaso-dilator response of the arteries.[14]

Desideratum in an apressor remedy.—Control of a persistently high arterial pressure by drugs is less or more

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[11] Journal de Physiothérapie, 15 Août, 1905.

[12] The normal proportion of salt in the fæces is greatly increased in diarrhœa. Vide L'Elimination du Chlorure de Sodium par la Diarrhée. (Comptes Rendus de la Société de Biologie, 1903, p. 929.)

[13] Brit. Med. Jour., 1906, vol. ii., p. 1454.

[14] Studies in Blood-Pressure, p. 92.

When the systolic arterial pressure maintains a high range (e.g., over 220 millimetres) this dietary should be tried, and especially when there are albuminuria and any œdema, however slight. But even when the arterial pressure is equally high and there is not even the merest trace of albumin in a pellucid urine, we may still entertain a suspicion of kidney insufficiency—such as may diminish the permeability of the chlorides, even though it may not appreciably affect that of the urea; and we may find a trial of the dechloriding diet as useful in such cases as in the albuminuric ones. When the kidneys are sound and normally permeable to sodium chloride it is not likely that the ordinary use of salt will interfere with the eliminatory work of the kidneys or will raise the arterial pressure, except quite temporarily, for normal renal elimination of the chloride is too rapid to allow of a permanent rise in the percentage of it to take place in the plasma and tissue fluids. We may therefore infer that if there is a permanent retention of chlorides it will be invariably pathological and not a physiological condition, and our aim and treatment is to restore the chloride equilibrium by reducing the amount of the ingested chloride to that which is eliminated by the kidneys. The question, therefore, is one of renal inadequacy in the elimination of the chlorides.

Should the arterial pressure be permanently raised without there being any failure in the elimination of chlorides, urea, and the xanthin bases the reduction of ingested salt is not likely to lower the arterial pressure, though it is well to test the matter by observation. In one such case I observed that the pressure actually rose on reducing the salt and diminished on allowing the free use of it; in the former case, after correcting for the renal elimination of the different amounts of the ingested chloride, the total daily urinary solids diminished and in the latter increased; and this observation was verified by repetition. May it not be that salt in the normal state of the kidney favours the elimination of nitrogenous waste products, which are less freely excreted when the renal permeability to chloride of sodium fails?

I have observed that as we grow older (say over 65 years or so) there is apt to arise a tendency to indulge more and more in the use of salt. When the arterial pressure rises unduly in elderly subjects we should do well to look out for this disposition. The suggestion of the late Sir W. Roberts, that we should substitute chloride of potassium for chloride of sodium as a table salt, is supported by Bunge,[8] who has shown that when potassium is ingested in excess of sodium a loss of the latter from the system takes place. Unfortunately, chloride of potassium is by many disliked as a table salt, but it is less objectionable when combined with 50 per cent. of chloride of sodium, and I have found the following a useful formula in high-pressure cases: Lithium benzoate, 1 drachm; or potassium benzoate, 3 drachms; potassium chloride, 2 ounces; sodium chloride, 1 ounce: a half-drachm measureful to be used.

Tobacco smoking is sometimes looked on as a questionable habit when the arterial pressure is increased, and knowing that nicotine raises that pressure and will even produce something like arterio-sclerosis in animals we may be disposed to look on smoking with suspicion. But smoking does not necessarily imply the absorption of all the nicotine contained in tobacco, as when, for example, the weed is chewed. For combustion breaks up the nicotine into such products as pyridin, carbon monoxide,[9] &c., which predominate in the smoke, though this may also contain a little nicotine. Hence the physiological effects of smoking on the arterial pressure will be due to the combined action of all the products of combustion as well as those portions of nicotine which escape destruction and which may be directly absorbed from the end of a cigarette or cigar. From the observations which I have made on myself and other normal subjects not habituated to smoking I find that it always raises the systolic pressure (e.g., from 10 to 20 mm. Hg.) without producing a corresponding rise in the diastolic pressure; in fact, the latter pressure will generally either remain unaltered or may even fall, the pulse pressure range (i.e., the difference between the minimum and maximum pressures) being increased. The effect, as a rule, passes off quite quickly, generally in ten minutes or so; but notwithstanding this fact it is undesirable in the management of cases of super-normal arterial pressure to permit indulgence in a habit which raises the systolic arterial pressure. Besides Barazzoni found that in subjects with high tension pulses the rise of the tension produced by tobacco smoking is more exaggerated than in subjects with low or medium tension and leads to dyspnœa, palpitation, præcordial distress, vertigo, tremors,[10] &c. In most cases when the habit of smoking can be given up it is best to encourage the patient to do so; and abstinence can generally be easily enforced in those who have been light or occasional smokers or who experience slight palpitation, hea hurry, anginal pain, or other discomfort after smoking. B in the habitual smoker it is not always easy even to limit t indulgence, though we should endeavour to do this whenev possible.

Rest and exercise.—The value of absolute rest in t management of high-pressure cases should be emphasised for I doubt if we all quite realise it as fully as we ought t do. We not infrequently see its calmative influence on t arterial pressure of bed cases (as in hospital), the pressu readings in similar pathological conditions being generall lower in them than in patients leading their ordinary live Absolute rest is the best sedative of exalted ventricul action, that large factor in maintaining super-normal pre sure, especially in the higher ranges; and this is oft apparent even when the response of the peripheral arterie to a vaso-dilator is either greatly limited or is not apparent In many such cases increments of pressure recur fro cardiac excitation induced reflexly or bio-chemically, whe recumbency for varying periods is invaluable, even thoug the heart muscle may not show signs of actual failure. Th periods of absolute rest required may vary from a day once or twice a week to even three or four weeks at a time; an after the lapse of the longer intervals of resting, care should be taken to see that the assumption of the accustomed exercise is gradual, or the good effects of the recumbency may be nullified.

When the arterial pressure rises beyond a certain moderate degree the patient is apt to become somewhat lethargic and inactive. We should in such cases encourage the taking of as much regular, moderate, and equable exercise as the patient's limit will safely permit. Walking is the best of all exercises, but, unfortunately, even when indulged in quite moderately, these patients frequently complain of early "fagging." Then in suitable cases gentle cycling on roads of low gradients and with a low-geared cycle is preferable, or horse riding, a form of exercise which we are apt to overlook in this mechanical age. All sudden forms of exertion should be avoided, such as straining at stool, &c. But the prescription of exercise when there is a rising pressure in the elderly requires some discrimination and caution. Many men over 60 years of age, who have led sedentary lives, on retiring from business are apt to adopt the ways and games of young men, and being unconscious of the fact that they have already used up much of their endowment of rubber in their arteries are apt to come to grief in cardio-vascular breakdown. Such cases are an object lesson to us to preach moderation in physical exercise to the elderly in whom we detect signs of diminished elasticity and play in the vascular walls, so that they may be induced to economise their remnant of rubber. Still, on the other hand, moderate activity in the elderly is generally beneficial; hence a sudden retirement from active business often leads to a premature break-up. The cardiovascular stimulation of exercise should always be avoided just after a meal. The patient should then rest recumbent or semi-recumbent for a good part of an hour; and after that interval has elapsed he should always take exercise however limited it may be. Special exercises, such as tension exercises, and graduated resistance and slow deep breathing exercises, are often valuable in widening the peripheral vessels and in letting down the arterial pressure; and massage is useful when the heart begins to weaken.

Balneological treatment.—Some experience in the use of different kinds of baths in the treatment of these cases has clearly indicated that some balneological procedures are more potent than others in relieving super-normal arterial pressure. But in the few words which can here be devoted to the subject of baths I can only indicate the general drift of that experience. Immersion in warm fresh water lowers the arterial pressure, chiefly by relaxing the cutaneous and splanchnic arterioles; but this effect is quite transitory and the cutaneous circulation is left more amenable than before the immersion to the contracting influence of a lower ich resist appreciable modification by treatment. But ese conclusions are only such as might have been ticipated, for a high percentage (probably about 90) of the ses presenting systolic pressure of over 200 millimetres are ses of chronic nephritis or of diffuse arterio-sclerosis—with without renal implication; and in a large proportion of ose in which the pressures are below 200 millimetres the se is, as a rule, the outcome of conditions less or more mediable. The percentage of cases regarded as amenable treatment will also be considerably influenced by the actitioner's conception as to whether the pressure is normal super-normal in any particular case, as there being no ich narrow line as that of the normal temperature each bserver, though knowing the general range of the normal ressure, gradually builds up from his experience a correction r individual instances, being mainly guided in this by the ollateral signs and symptoms and by the effects of treatment borderland cases. When, for example, he discovers that systolic arterial pressure of 145 or 150 millimetres, which e regarded as doubtfully normal, may be reduced to, say, 25 or so, with an improvement all round in the patient's ondition and health, he will conclude that the latter and ot the higher pressure is the patient's normal reading. Such xperience is likewise useful in showing that we can thus ick out cases still amenable to treatment which might therwise be allowed to drift into the less controllable nd higher ranges of super-normal pressure. Our clinical management of blood pressure thus becomes more preventive. It seems to me, therefore, desirable to subject most cases in he doubtful area (from 145 to 160 millimetres) to corrective reatment before accepting from 145 to 150 millimetres in a routine way as the parting line between the physiological and pathological areas.

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[8] G. Bunge: Text-book of Physiology and Pathological Chemistry (translated by F. A. Starling), 1902.

[9] See The Lancet, Jan. 2nd, 1904, p. 43; and Feb. 6th, 1904, p. 395 (Dr. J. S. Thompson).

[10] Gazzetta Medica Italiana, 1905.

An increment of the arterial pressure is a result.—Finally, I wish again to emphasise the fact that super-normal arterial pressure is not itself a primary condition to be attacked or controlled as such. It is invariably a result of some pathological cause or causes, and it is, moreover, often indeed a necessary result of conditions which we cannot remove. While realising what are the ill effects of high arterial pressure and trying to modify them as best we may by our attempts to moderate the pressure, we are apt to forget that that pressure is not infrequently a necessary evil and should sometimes be regarded as a compensatory effort or as one of the natural defences of the body. On this point Dr. Theodore C. Janeway, who has done so much to advance the clinical study of blood pressure, has recently remarked, after referring to the futility of drugs to keep down the blood pressure, "Another common experience is that the steady downward progress with falling blood pressure, when heart weakness supervenes, is often made worse by arterial dilators. If improvement comes under digitalis, for instance, the pressure usually rises. These observations find their readiest explanation, if we believe that for such patients an average level of arterial pressure far above the normal is absolutely necessary to insure the requisite speed of capillary blood flow. For them the optimum pressure for the maintenance of a normal circulation may become 200 mm. or more, instead of 100 to 145 mm. ...... Where no symptoms of a threatening nature exist these preventive measures alone are called for. Under such circumstances a systolic blood pressure of 200 mm.—yes, even 250 mm. and over—is not incompatible with a number of years of comparative comfort and activity, particularly if the response to treatment is favourable and the patient coöperates heartily."[22]

Farnham.

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[22] Some Common Misconceptions in the Pathological Physiology of the Circulation and Their Practical Significance, by Theodore C. Janeway, M.D., New York Medical Journal, Feb. 2nd, 1907.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The thirty-first annual meeting of the above association was held at 20, Hanover-square, London, W., on May 7th. The report gave the number of members as 624 and of student associates 350. During the year the Scotch and Irish branches had been dissolved and 11 new branches formed in provincial centres with medical schools—namely, Belfast, Bristol, Cardiff, Dublin, Dundee, Edinburgh, Glasgow, Leeds, Liverpool, Manchester, and Newcastle-on-Tyne. Others were about to be formed and it was expected that the members in these localities would do good work among the medical students. After refreshments Professor G. Sims Woodhead, the President, gave an address on the Medical Justification of Total Abstinence.

A CASE OF CHLOROMA.

BY FRANK M. POPE, M.D. CANTAB., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO THE LEICESTER INFIRMARY.

With Microscopical and Pathological Notes by WILLIAM E. REYNOLDS, M.B., CH.B. Edin., *House Physician to the Infirmary.*

THE following case is one of such rarity and deep interest that it seemed worthy of publication.

The patient, a boy, aged 14 years, was admitted into the Leicester Infirmary under the care of Dr. Pope on Feb. 13th, 1907, complaining of pallor, swelling of the eyes, shortness of breath, and weakness. He gave the following history. Two months before admission the patient noticed that he was easily tired and unfit for work. At this time he was getting paler and was suffering from a bad cough. Two weeks later he noticed hæmorrhagic patches on his legs which had come on without any apparent cause or injury. These were described as small, painless, and having a purple colour. A few days later they appeared all over his body but not many at a time. There had been no epistaxis or bleeding from the gums. Three weeks before admission he became aware that his eyes were swollen; this was more noticeable in the morning. He kept at his work until a fortnight before admission. For the last ten days he had to remain in bed. Two or three days before admission he noticed "bruises" on his face and legs; these were present on admission. He never suffered any pain during his illness but steadily became weaker and paler. The bowels were constipated. The only fact worthy of notice regarding his previous health is that he dislocated the left elbow on August 7th, 1906. He was treated in the casualty department of the Leicester Infirmary, recovery being uneventful. He had eight brothers who up to the time of his admission were quite healthy and with no history of any disease.

On admission he presented a pronounced waxy colour, looked very ill, and was considerably emaciated. There were marked puffiness of the eyelids and slight proptosis. The conjunctivæ were chemotic and pale; there was also some subconjunctival ecchymosis, most marked beneath the upper lid of the right eye. A few spots which had the appearance of pustules were present over the bridge of the nose, left eyebrow, forehead, and right side of the chin; they contained what seemed to be yellow pus; their bases were œdematous and of a dull greyish colour but were not painful or tender to touch. There was a glandular enlargement of slight degree involving the cervical glands—both superficial and deep groups—the axillary, inguinal, and femoral glands. General development was good. The respirations were 24 per minute and normal in character. He had a frequent hacking cough but no expectoration. The temperature was 103° F. He complained of great thirst, was constantly calling for water, but refused all nourishment. The bowels were usually constipated. The mouth was very dry and the teeth, gums, and inner surfaces of the lips were covered with thick brown crusts. The mucous membrane was pale; there were no hæmorrhages; the gums were not spongy and did not bleed readily. The tonsils were not enlarged. His abdomen moved freely with respiration, no distension or ascites being present. The liver was not enlarged; its lower edge was just at the costal margin in the right mammary line. The spleen was easily palpable and extended two inches below the costal margin; it was slightly tender on palpation; on percussion its upper limit was found to extend to the eighth interspace, half-way between the posterior axillary line and the scapular line; its posterior limit appeared to be about an inch from the vertebral spines. He was slightly dyspnœic on exertion; the pulse numbered 104 beats per minute and was regular and soft. The heart's apex beat was visible, diffuse, and felt in the fifth space a quarter of an inch external to the left mammary line. On percussion the deep cardiac dulness was as follows: the upper border was at the third left rib, the right border was at the lateral sternal line. At the mitral area there was a soft systolic murmur propagated for three inches into the axilla; the second sound was faintly heard but clear. At the aortic area the sounds were faint and no murmur could be detected. Both sides of the chest moved freely on respiration. The percussion note was impaired over the right base at the back where the breath sounds were broncho-vesicular in type. Over the left lung at the unsatisfactory. Should an impression be made there is the gradual failure to maintain it, or the great liability—often, indeed, the certainty—of the recurrence of the higher pressure on discontinuing the remedy or on reducing the dose of it. The effect is, indeed, rarely curative. The desideratum in an apressor remedy seems to be the discovery of some agent which will modify arterial pressure on the lines followed by nature—some product or other which may be continued without harm so long as it may be required. We may as experimental work proceeds find the solution of this question in physiological chemistry, and we are already beginning to realise that arterial pressure may be the resultant of the interaction of pressor and apressor products supplied to the blood by the internal secretions of the various organs and tissues and that the higher ranges of pressure we meet with may arise from the predominance of the pressor products, the antibodies being generated in insufficient quantity.

The depressor effect of ingested thyroid.—We know that the adrenal and the pituitary glands and the kidneys yield pressor bodies; but our knowledge of apressor products is much more limited—the internal secretion of the thyroid gland being about the only one with an experimentally proved depressor action. I have observed that the ingestion of thyroid gland increases the calibre of the arteries and lowers the arterial pressure, and in many cases of increased arterial pressure it is undoubtedly useful, especially in subjects over 45 or 50 years of age of a gouty or obese type, but it is not a remedy which should be prescribed in a routine way in the majority of cases. When given in guarded dose with each meal it will often modify the pressure and improve the general health, and then it may with occasional supervision be safely continued with advantage for long periods. It has been thought by some (Stockman, Rolleston)[15] that the iodides exert their beneficial effect on arterio-sclerosis and heightened arterial pressure by stimulating the thyroid; they do not, however, reduce the arterial pressure. And just lately Chalmers Watson[16] suggests that the good results obtained from a bread-and-milk diet observed by Herringham[17] in certain cases of arterio-sclerosis with increments of arterial pressure arise from the profound influence of a diet in which milk largely preponderates on the structure of the thyroid gland which he has demonstrated in animals—this therapeutic effect being according to him "indirect, the thyroid gland spontaneously recovering under the influence of lessened strain on its functional activity."

The depressor effect of some other normal constituents of the plasma.—But I think we may question whether the internal secretion of the thyroid is the only apressor agent present in the plasma, notwithstanding its obvious importance. Is it not probable that the arterial pressure is normally modified by some of the saline constituents, some tending to raise the pressure, while others lower it in proportion to their preponderance? The quantitative relation between the various salts of the serum is probably maintained within certain limits in health, and in disease that relation may at times be disturbed either by the undue ingestion or the defective elimination of certain salts (such as calcium carbonate and sodium chloride). Somewhat cognate physiological facts point to the important influence of the salts of the plasma. Ringer has shown that the salts of calcium, sodium, and potassium must exist in an ideal circulating fluid in the right proportion and those of calcium are of singular importance in maintaining the contractility of the ventricle, and Waller has demonstrated that potassium depresses and calcium augments the variations of electric response in nerve. Moreover, we also know the important rôle played by calcium in the coagulation of blood and milk. May not a similar relationship subsist between the various salts of the plasma and the blood pressure? In man the depressor effects of the potassium salts, whether as carbonate or citrate, on the arterial pressure are often more striking than might be expected from the results of experimental work; and the maintenance of a lower level of pressure thus obtained may be partly due to the corrective effect of the ingested alkaline salts on the disturbed balance produced by the predominance of pressor salts. In practice we frequently combine the nitrates and nitrites with the carbonates or citrates of potassium. Sir Lauder Brunton associates nitrate of potash (20 grains) and nitrite of sodium (from a half to two grains) with this alkaline treatment (potassium bicarbonate) in a large tumbler of water in the early morning; and I have observed excellent results from a continuance of this prescription in many cases of decided super-normal pressure. Alkalies are generally well borne by such cases for long periods. But my observations in man dispose me to conclude that there may be other salts normally present in the plasma which tend to lower the arterial pressure, such as the hippurates and benzoates. I have given these salts a good clinical trial during the past two years or so and I am satisfied that they are useful in cases of hypertension and of moderate increments of arterial pressure. As a rule they improve the general health and well-being and are well adapted for long-continued use in the preventive treatment. In many cases of hypertension, especially in women and overworked anxious men, I have observed that the association of *ammonium bromide* with ammonium hippurate or benzoate is still more beneficial in providing a higher degree of sedation of the vaso-motor nervous system than is furnished by either remedy alone. There are also other remedies furnishing hippuric acid to the system which are worthy of trial in cases of super-normal arterial pressure, such as quinic acid, styracol, tylmarin, which are obtainable in the tablet form. It is interesting to find how many remedies with a benzene nucleus are useful in gout as well as in arterial hypertension.

Exogenous apressor remedies.—I shall not discuss the important therapeutic range of the *nitrites*, for this is well established and common knowledge. *Iodine* as KI, &c., has for many years been relied on as our sheet-anchor in the treatment of cases of arterio-sclerosis, whether it is associated or no with a rise in the arterial pressure. In such cases the iodides are surprisingly well borne in large doses by the mouth without producing symptoms of iodism or of depression, but my manometric observations show that they have no direct effect on the arterial pressure, and therefore they agree with those of Stockman, Burnet,[18] Janeway, and some other observers. But notwithstanding this fact, I have often found a long continuance of the iodides in small doses most useful in cases of super-normal arterial pressure. *Citric acid and the citrates* have been employed to reduce the coagulability of the blood by decalcifying it[19] and I believe they have also been prescribed as apressor remedies. The use of the *salts of magnesium* (e.g., magnesii citras or chloridum) is also suggested as decalcifying agents by the work of Dr. J. Malcolm, who has shown that the ingestion of the soluble magnesium salts causes a loss of calcium in adult animals and hinders its deposition in young growing animals.[20] These salts may therefore prove useful in the senile who are prone to calcium deposition with increment of arterial pressure. *Sparteine* has recently been suggested by Professor Dixon of Cambridge[21] for lowering the arterial pressure; but I have not as yet made any clinical observations with it, as I hope to do.

The amenability of increased arterial pressure to control.—Cases present decided differences in their response to treatment. This disparity is doubtless largely due to variations in the cause and in the stage of development of the pathological condition. The effects of treatment also differ considerably in the two classes of cases—namely, in the cases in which we can freely prescribe rest and regulation of exercise and life generally and in those who must follow their avocations and their ordinary routine. In the former class the results are often more satisfactory, even when the pressure runs into the higher ranges. But the fact remains that the pressure is much more amenable to control in some cases than in others in which it may be, and not infrequently is, practically uncontrollable. My observations lead me to the general conclusions—to which, however, I have met with some exceptions—that there is an inverse ratio between the observed reaction to vaso-dilatation and the degree of persistent super-normal pressure; and that in cases following their ordinary course of life the amenability of the pressure to be controlled by treatment diminishes in a general way in proportion to the rise of pressure—the cases having persistent systolic pressures of over 200 mm. Hg furnishing by far the majority of those pigmentary change. The stomach was pale lemon yellow and showed numerous green patches below the mucosa. The lymphatic glands of the upper part of the duodenum and the stomach were green and hyperplastic; those of the large and small bowel and the axillary and inguinal glands were only hyperplastic. The thoracic duct and mediastinal glands were the seat of the most extensive growth; in places it extended over the bodies of the vertebræ, below the parietal pleura along the costal surfaces. The bone marrow was of normal colour. The orbits were distended with hard greenish tissue, replacing most of their softer contents, in parts showing a tendency to deep-seated caseation. The condition of the temporal fossa, especially on the right side, was a marked infiltration of the muscle by the green growth. Flat masses of green growth were also numerous below the cranial periosteum, between the dura mater and the bone, and along the superior longitudinal sinus. Small punctiform hæmorrhages were seen below the serous surface of the dura mater. The choroid plexus showed some pigmentary change but no definite growth could be detected. There was no thrombosis of the sinuses. All the green tissues after a few minutes' exposure to the air became paler in colour. Cultures taken from the spleen, the liver, and the growth were sterile.

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[15] Clinical Journal, 1905.

[16] Brit. Med. Jour., vol. i., 1907.

[17] Op. cit.

[18] James Burnet: Therapeutic Action of the Iodides, THE LANCET, Sept. 8th, 1906, p. 646. Dr. Burnet advocates the subcutaneous use of iodipin.

[19] See C. J. Colman, op. cit.

[20] On the Inter-relationship of Calcium and Magnesium Excretion, by J. Malcolm, M.D., Journal of Physiology, 1905, p. 183.

[21] Brit. Med. Jour., 1906, vol. ii., p. 1456.

Microscopical and Pathological Notes, by Dr. W. E. REYNOLDS.—Selected pieces of tissue were immediately hardened in alcohol and in a saturated solution of mercury perchloride in normal saline; paraffin sections were stained with hæmatoxylin and eosine and with Unna's alkaline methylene blue and eosine. Ferro-cyanide of potassium and ammonium sulphide were also used. The spleen shows greater changes than were evident macroscopically; the capsule and reticulum are not much thickened; the Malpighian bodies are prominent and plugged with lymphoid cells, but the chief change is the large number of endothelioid cells in the pulp; these project into the lumen of the sinuses; many of them are free; they are large in size and show much phagocytic activity, containing numerous red and white blood corpuscles; others, again, contain granules of golden-brown pigment, which is so marked in places as to obscure their cellular structure. Generally speaking, the nucleus is pushed to one side of the cell and is faintly staining. The lymphoid cells of the Malpighian bodies are large in size, with rounded or reniform vesicular nuclei having a very sharply defined nuclear membrane and irregularly and centrifugally arranged chromatic substance; the granulation is mostly fine in character. Neutrophilic, basophilic, a few polymorph neutrophilic, and coarsely granular eosinophilic cells are present. Brown pigment is very evident in the fixed and free endothelial cells, especially in those near or round the larger blood-vessels; it is mostly intra-cellular, rarely seen in the nuclei, and occasionally free. The larger vessels show a slight degree of hyaline change.

In a hyperplastic inguinal lymphatic gland much the same changes are present. The sinuses are plugged with lymphoid cells similar to those in the spleen, and the germinal centres are obscured. There is also a marked enlargement and proliferation of endothelial cells, which seem actively phagocytic to red and white blood corpuscles. Pigmentary changes analogous to those found in the spleen are present but not so marked. The green lymphoid tissue from the sternum shows the same appearances; it consists of masses of leucocytes of unfamiliar type imbedded in a delicate stroma; they are similar to those found elsewhere; coarsely granular eosinophile cells are, however, more numerous. In places the cells have lost their sharp outline, are packed close to each other, and their nuclei which stain intensely show signs of disintegration. The vessels are well-formed, and newly formed capillaries seem to have arisen in places; their endothelial cells are also enlarged, proliferated, and phagocytic. Pigmentary changes are very evident; in places the individual cells are almost choked with pigment. These "pigment cells" are also numerous in the surrounding connective and adipose tissues. The kidneys show large groups of lymphoid cells of the same nature replacing the renal tissue. There is slight cloudy swelling of the tubules and some pigmentary change is present. The liver shows marked changes. Glisson's capsule is well seen and infiltrated with similar lymphoid cells which are partially obscured by slight hyaline change; the adjacent liver cells are apparently normal, their nuclei, however, are vesicular and the cytoplasm contains numerous granules of refractile brown pigment. The hepatic vessels are similarly affected but there is less infiltration; pigmentation, however, is marked. In places the liver cells are compressed by lymphoid cells, are vacuolated, and contain numerous granules of pigment.

The relation of chloroma to other diseases is very obscure. It is often classed with melanotic sarcoma under the pigmented sarcomata; some pathologists regard it as a form of leukæmia, others as a condition *per se* showing characters in common with leukæmia, the infective granulomata, and sarcomata. In this particular case the history, clinical course, and distribution of the gross lesions suggest an infective process. The morbid histology shows a general dissemination of what looks like lymphoma; on closer examination, however, we find that the blood-vessels are well formed and the presence of newly formed capillaries indicates changes analogous to those found in subacute and chronic infections. In spite of this the characters of the cells and their nuclei are indistinguishable from those seen in sarcomata. In the spleen we find excessive hæmolysis and, what is more remarkable, phagocytosis of white blood cells by endothelioid cells; we also find that the endothelioid cells in the other hæmopoietic organs have taken on these functions. The explanation of this may be either that the endothelioid cells themselves are primarily affected and are stimulated to an abnormal extent, or that the first effects fall on the leucocytes and red blood corpuscles, which are being rapidly destroyed as noxious bodies or as waste products. The increase of xanthin bodies, &c., in the urine gives clinical evidence of a nuclear destruction. Pathologically we may derive some information from the distribution and nature of the pigment as to the exact meaning of these processes; we must, however, bear in mind that the quantity of the pigment is greater than would be accounted for by hæmolysis alone, a considerable portion of it having been excreted in some form or other during life; it is thus possible that it is derived in part from cellular and nuclear destruction. With this in view and with the idea that we were probably dealing with an infective process I endeavoured to ascertain the chemical nature of the pigment. Analyses as accurate as were possible by the aid of the microscope and minute quantities extracted from the tissues showed that the pigment was of the nature of a fatty acid combined with iron and that, moreover, it had very strong reducing powers. This explains the rapid change in colour of the pigmented tissue on exposure to air.

The physical and chemical properties of the pigment are as follows. With potassium ferro-cyanide a Prussian blue colouration was obtained but with some irregularity and difficulty. With ammonium sulphide and gentle heat a black reaction was observed; this was also marked in the nuclei of the hepatic and splenic cells and very evident in the growth. Picric acid in the presence of dilute caustic potash was reduced, giving a red colour. Sodium nitoprusside and dilute caustic potash gave a ruby red, but, unlike creatinine, on the addition of acetic acid no Prussian blue was observed. The pigment was insoluble in water, dilute mineral acids, alcohol, ether, and chloroform, slightly soluble in ammonia, and it was considerably altered in boiling water or alcohol, in which it was partially soluble. The facts that it unites with some metals to form salts, that it is a powerful reducing agent, and that it gives the above chemical and physical reactions suggest some substance analogous to creatinine and creatine. By special fixation or solution of the pigment and by special staining methods (which I shall publish subsequently) it is possible to demonstrate a bacillus which markedly resembles the bacillus mallei both morphologically and in staining affinities. Its distribution is precisely that of the pigment and is chiefly abundant in the nuclei of the cells immediately adjacent to the growth, in the nuclei of the cells forming the growth, and in the cytoplasm of the hepatic cells and of the endothelioid cells in every organ; in these last the bacilli appear to be exceedingly numerous; in places the cells are plugged with them, in others two or three are contained within vacuoles; some are free in the blood and in the intercellular spaces of the growth. The bacillus is variable in size, usually of the size of a tubercle bacillus but somewhat thicker; some are larger, slightly curved, and sometimes show clubbing of one or both extremities, and their protoplasm is often broken up into a number of deeper stained bands; others are smaller, of about the same thickness, and exhibit marked bipolar staining; they all possess rounded ends so as to give the shorter forms a spindle-shaped character. I was unable to detect any definite back the breath sounds were puerile; in front they were faint, with prolonged expiration. The vocal resonance was increased over the base of the right lung. There were a few rhonchi all over the lungs and especially over the right base. His pupils were slightly dilated but equal, and reacted to light and to accommodation. On ophthalmoscopic examination numerous large and recent fan-shaped retinal hæmorrhages were seen, the discs were markedly œdematous and indistinct, and the vessels were not clear. There was a slight lateral nystagmus but no paralysis of the ocular muscles. The vision was markedly impaired, especially in the right eye. The colour sense was normal. His hearing was defective: one had to talk loudly to make him hear; he was quite unable to hear a watch tick with the right ear and could only just hear it with the left. The knee-jerks were absent; the plantar reflex was exaggerated but normal in type. There was incontinence of urine. His skin was moist and smooth. The temporal region was puffy but there was no discolouration. Over the external aspect of the right knee there was a large greenish yellow patch about three inches long, the periphery of which faded off into a yellow tint; another, two inches long, was present over the instep of the left foot; there was no sign of injury on the skin over these patches. On running the fingers over the subcutaneous surface of both tibiæ small hard nodules of about the size of a pea, continuous with the shaft of the bone, were felt. The specific gravity of the urine was 1010; it was alkaline in reaction, clear, and of a light amber colour; there was no albumin, peptone, albumose, or hetero-albumose present; there was a deposit of stellar phosphates.

A provisional diagnosis of acute leukæmia was made. The blood was examined on the day after admission. On puncturing the lobe of the ear it was found to bleed readily and continuously, the blood being very pale and its coagulability seemed decidedly diminished. The result of the examination was as follows: hæmoglobin, 45 per cent.; red blood cells, 2,450,000 per cubic millimetre; and white blood cells, 197,500 per cubic millimetre. Blood films stained by Jenner's and Ehrlich's stain gave a differential count of—large lymphocytes, 20 per cent.; small lymphocytes, 19 per cent.; polymorph neutrophiles, 14 per cent.; myelocytes (mostly large, one coarsely granular eosinophile), 25 per cent.; mast cells (coarsely granular basophile), 5 per cent.; coarsely granular eosinophiles, 6 per cent.; and unclassified, 11 per cent. Transitional forms were so numerous that an accurate count was difficult; there were no large mast cells such as are found in spleno-medullary leucocythæmia. The white cells were generally of a good shape, with the exception of a few myelocytes, which showed irregular or double nuclei and disintegration and vacuolation of their cytoplasm. The red cells were of good shape, normoblasts were scanty, while blood platelets were numerous. On Feb. 19th he complained of failing eyesight; chemosis was more marked; the pupil reflexes were, however, normal. The yellow spots which had the appearance of pustules were more numerous; on cultivating the contents of these a pure growth of staphylococcus albus was obtained. On the 21st the patient was weaker; he complained of intense thirst and vision was less distinct. There was complete ophthalmoplegia of the right eye, whilst on movement the left showed a lateral nystagmus. The left pupil reacted to light. He could only distinguish objects a few inches away with his left eye. A small swelling of about the size of a marble had appeared on the right temporal region; this was circumscribed, soft, and deep fluctuation was elicited; there was no pain or redness. The nodes which were present on admission were appreciably larger. A culture taken from the blood proved to be sterile on aerobic cultivation. On the 23rd the eyes were more prominent, the swelling on the right temporal region was more pronounced and semi-fluctuant, and it had acquired a distinct pale greenish tint. The gums were bleeding slightly. The patches on the legs and feet had remained of the same tint, but had become more extensive. He was decidedly more anæmic, as was confirmed by a blood examination which showed considerable alteration: hæmoglobin, 25 per cent.; red blood corpuscles, 900,000 per cubic millimetre; and white blood corpuscles, 360,000 per cubic millimetre. Differential count: large lymphocytes, 19 per cent.; small lymphocytes, 17·5 per cent.; myelocytes, 32 per cent.; polymorph neutrophiles, 8 per cent.; mast cells, 6·5 per cent.; coarse eosinophiles, 2 per cent.; and unclassified, 15 per cent. There was a marked increase of blood platelets, the red cells showed considerable granulation and poikilocytosis, and normoblasts were still scarce but distinctly increased. A fresh film in a warm stage showed very little amœboid movements of the cells. On the 25th the patient was much weaker; he was delirious and cried out frequently, complaining of intense pain in the eyes. There were complete ophthalmoplegia of both eyes and total deafness. Small subcutaneous nodules of about the size of a pea were found on the outside of the left leg; these were firm and painless and not discoloured. Adventitious sounds were more numerous at the bases of both lungs. On the 26th he was obviously dying; he was still delirious and crying out with pain; he now had incontinence of fæces as well as of urine; his pulse was irregular and small in volume. On the 27th he became comatose and towards the evening the respirations became more laboured and 44 to the minute. His pulse was fuller in volume and numbered 120 beats per minute. There was a small patch of dulness in the left interscapular region, over which the breath sounds were tubular in type and the vocal resonance was increased. His temperature remained much at the same level. He gradually became worse and died at 4.30 A.M. the following morning, 14 days after admission. His condition was one of a rapidly progressing anæmia, with an irregular continued fever varying between 101° to 99° F. His spleen became appreciably larger; nine days after admission it was three inches below the costal margin, and two days later it had increased half an inch further down; it was always slightly tender on palpation. No progressive glandular enlargement was detected. A conspicuous feature was the absence of pain during the whole of his illness, with the exception of the last day or two.

At the post-mortem examination seven hours after death rigor mortis was well marked. There was no hypostatic lividity, but some post-mortem discolouration of the abdomen was present. Nutrition was impaired. Both eyes were much proptosed and chemotic. There were three firm nodules just below the skin of the left leg on the course of the veins. On removing the sternum large flat masses of greenish tissue were present under the periosteum; on section they consisted of greenish substance, the colour of which faded rapidly on exposure. The heart was large and pale. The thymus weighed one and a half ounces; on section it was hard and firm and of a greenish mottled appearance. The pericardium contained half an ounce of clear fluid. The heart was distended; there were several greenish patches below the epicardium measuring up to 1·5 centimetres in diameter; numerous subpericardial hæmorrhages were seen. The right chambers and valves were healthy; a large, soft, ante-mortem clot occupied most of the auricle. Some greenish nodules covered by healthy endothelium were distributed along the auriculo-ventricular ring. The muscle was pallid but healthy and measured 0·5 centimetre at the thickest part. The left chambers and valves were healthy; the muscle was 1·5 centimetres thick. The right lung weighed 9 ounces and was adherent firmly to the posterior and upper parietes; the middle, upper, and lower lobes were fused together. The surface was of a mottled greenish colour; on section it was of a mottled green and pinkish colour; round the bronchi there was a deposit of greenish tissue. The left lung weighed 16 ounces; it had a greyish mottled surface, the upper lobe being congested and œdematous. The lower lobe showed a small patch of broncho-pneumonia. The spleen weighed 70 ounces, was much enlarged, and pale in colour; a few greenish masses were present near the entrance of the large vessels; on section nothing was noticeable; the Malpighian bodies could not be seen; the general substance was soft. The kidneys were large; the capsule stripped easily and revealed a striking greenish mottled surface with numerous small hæmorrhages; on section the cortex was increased in size and the colour was like that of the surface. The left weighed 10 ounces and the right 8 ounces. The mucous membrane of the urinary bladder had a green appearance. The liver weighed 2 pounds 3 ounces. The gall-bladder was distended with dark greenish bile; it was markedly thickened and showed considerable green pigmentary change. The liver surface was pale and there was a small patch of greenish tissue below its serous coat. On section it presented a most striking appearance; triangular-shaped green deposits of considerable size, varying from 1·5 to 0·75 centimetres, surrounded the larger vessels. The pancreas showed marked catch it and paralyse it and so may mediastinal growths or enlarged glands, but more important than these, because very fatal and often latent, is aneurysm of the aortic arch.

Referring to Dr. F. de Havilland Hall's well-known work on "The Medical Examination for Life Assurance" he says: "The records of life assurance offices show that thoracic aneurysms are *frequently overlooked*. In many instances this omission is almost unavoidable, as even when a patient is anxious to give all the information he can the physical signs are often too ill-defined to enable a diagnosis to be arrived at." This I heartily endorse, at the same time suggesting that if these cases had had their larynges examined perhaps danger signals might have been detected in some of them. In these cases of aortic aneurysm the left nerve, as might be expected, is the one generally affected, but sometimes both are involved; and the cause of this has led to much discussion, some explaining it on the ground of the aneurysmal dilatation having extended into the right subclavian and involving the right recurrent as well as the left; but it has also been shown that pressure on one vagus may, by acting reflexly through the afferent fibres, produce paralysis of motor fibres on both sides.

The onset of paralysis is insidious and peculiar, and with reference to it I must quote the work of Sir Felix Semon, whose investigations in this, as in other matters on laryngology, are of marked and permanent value. Semon's law says: "In organic progressive diseases of the roots and trunks of the spinal accessory, vagus, and recurrent nerves the dilator fibres are affected earlier than the constrictor fibres, or may be even attacked exclusively," and the law holds good in this case. Now the dilator muscle of the larynx or abductor of the cords is the crico-arytenoideus posticus, and it is better to speak of posticus paralysis rather than abductor, because the terms "abductor" and "adductor" are so much alike that confusion is apt to arise. Therefore, if one sees the larynx early it is noticed that the posticus or dilator only is paralysed and the vocal cord lies motionless in the middle line; in this stage, however, when one cord only is affected, there may be very little, if any, alteration in the breathing or phonation, the outward movement of the cord on the unaffected side during inspiration giving sufficient room. Should, however, both postici be paralysed, both cords lying near the middle line, there is no room to breathe and the danger of suffocation is great. Though neither voice nor breathing may give much warning in this early stage of paralysis of one cord, yet in some cases attacks of difficult breathing and alteration of voice due to spasm of the muscles of the cords occur, the cause being irritation of the nerves. If, however, the condition has passed on to complete paralysis of one cord the voice is weak and more or less hoarse and sometimes with a tendency to falsetto when the patient attempts to speak loudly, but there is no dyspnœa; on examining laryngoscopically it will be found that the paralysed cord lies motionless in a position very near to that which it assumes in the dead body and which is known as the cadaveric position. On making the patient phonate it may be seen that the healthy cord comes right across over the middle line and approximates itself to the paralysed one, so helping its weak partner to produce a voice.

Although complete left sided paralysis is the commonest form observed, yet one may get various combinations, such as complete paralysis on one side and partial on the other, the difficulties being phonatory when there is complete paralysis and respiratory when the dilators *only* are affected. It has been pointed out that the tactile vocal fremitus is different on the two sides of the larynx when one cord only is paralysed, but I do not think much weight can be attached to this. Movement, too, of course, may be communicated to the trachea and larynx by the tugging of the aneurysm, especially when the patient's head is held backwards. Also, seeing that the aorta lies close to the anterior surface of the trachea just above its bifurcation and then curves backwards and to the left over the left bronchus, one may find stenosis and stridulous breathing from pressure here, and if the glottis can be well dilated one may sometimes see the pulsation with the laryngoscope in the lower part of the trachea, especially on its left anterior wall.

Leaving now the aorta and aneurysm, let us turn our attention to *another* point at which the recurrent laryngeal nerves are often pressed upon with resulting paralysis of vocal cords. These nerves, you will remember, passing upwards and backwards behind the subclavian on the right side and the aorta on the left, reach the groove between the trachea and œsophagus, and continuing their course towards the larynx reach the lower border of the cricoid cartilage where they pass beneath the inferior constrictor muscles of the pharynx, and should they be caught in this region a serious significance must often be attached thereto. Let me illustrate what I mean by a case. In 1897 a man brought his wife, aged 40 years, to me, stating that he was thinking of insuring her life, but wished me just to examine her to see if her various organs were in a sound condition. In answer to my inquiries as to her state of health she stated that she enjoyed very good health indeed, but had lately had a slight hoarseness and a little pain in the right ear which she considered to be due to a cold. She had no difficulty in swallowing, but a curious point was that she had recently nursed a sister who had, she stated, died from cancer of the tongue. On making a laryngoscopical examination I found that she had complete paralysis of the right vocal cord, and at the base of the arytenoid on this side there seemed to be some fulness on its œsophageal aspect, but nothing could be felt externally, nor was there pain or tenderness here, but I could not help feeling highly suspicious as to the nature of this swelling, thinking that one had in all probability to deal with a malignant growth of the œsophagus in an early stage. This opinion was confirmed by Dr. H. Lambert Lack, who saw her at my request shortly afterwards. In March, 1899 (about two years later), I saw her again when almost moribund and a few days afterwards was allowed to make a post-mortem examination, when I found a mass of growth involving the recurrent laryngeal nerve on the right side, and this was shown by microscopical examination to be an epithelioma.

Now it would not have been worth while referring to this case but for the fact that this condition is by no means a rare one, and it is a common thing—at any rate, at a throat hospital—to see a patient with commencing malignant disease of the upper part of the œsophagus with very little indeed to show for it except paralysis of a vocal cord. It also occurs in comparatively young persons and I have seen it myself in a woman aged 28 years. In some goitres also paralysis of the vocal cords may be produced by pressure on the recurrent nerves, but with them external swelling is generally obvious and the examiner is not likely to be taken off his guard.

As regards nerve degenerations, we may find paralysis of the vocal cords in bulbar paralysis, disseminated sclerosis, and syringomyelia, amongst other diseases, but being rarely if ever the earliest symptom of these diseases it has but little importance here from a life assurance point of view, but in tabes dorsalis laryngeal paralysis may be the first sign, and the typical paralysis of tabes is the before-mentioned paralysis of the crico-arytenoideus posticus or abductor of the cord. This may occur on one side or both, but various forms of paralysis may be met with, and the condition may be so marked as to produce a very noticeable alteration in the voice or respiration, or so slight in effect as to be hardly observable, and the paralysis also may develop very gradually. Besides, irregular or ataxic movements of the cords may occur on the patient attempting to take a deep inspiration or use the voice, which latter may be interrupted and the speech jerky; or there may be the history of laryngeal crises, in which the patient generally feels an irritation or tickling in the throat and gets a violent convulsive cough with noisy respiration and dyspnœa. The attack is often followed by paralysis of the cords, so that if owing to any such history or to hoarseness or dyspnœa we examine the larynx and find paralysis locomotor ataxia is one of the diseases to be thought of and confirmatory evidence should be sought for in the eyes, knee-jerks, &c. In general paralysis of the insane—a very fatal disease—the patient very often exhibits more or less marked posticus paralysis, and a case in which laryngeal spasm was the precursor of the disease has been recorded.

Let us now leave paralysis of the recurrent laryngeal nerve and pass on to the conditions in which phonation and respiration are interfered with by mechanical causes in the larynx, first, however, remarking that ankylosis of the crico-arytenoid joints may produce appearances and loss of movement very similar to those due to paralysis, but sometimes swelling can be noted round the joint in ankylosis and there is more rigidity of the parts. As regards the intralaryngeal mechanical causes of loss of voice and interference with breathing, they are many, but from a life assurance point of view three only may be regarded as sufficiently common and important to dwell on—viz., (1) malignant spore formation or to stain them by Gram's method. It is stained faintly and with difficulty by basic stains and is easily decolourised with weak acids and less so with alcohol. Cultivation was unsuccessful both from the blood taken during life and from the blood and organs post mortem. Inoculation with blood taken during life was unsuccessful.

The association of the bacilli with the pigment is supported by their distribution (they are specially numerous in endothelioid and "pigment cells"), by the fact that potassium ferro-cyanide and ammonium sulphide show blue and black granules respectively, which in places are distinctly bacillary and in others bipolar in shape; we have further evidence in the fact that unless the pigment is either fixed or extracted they cannot be demonstrated. Their presence in large numbers in a hyperplastic gland excised very shortly after death and immediately hardened excludes the possibility of a post-mortem contamination. Against the hypothesis that they are pathogenic it can be urged that the defensive cells and their generating centres are diseased, have lost their function, and hence the infection may be accidental rather than causative; in answer we have the absence of any other organism in the tissues and the evidences that free and attached endothelioid cells are actively phagocytic to this bacillus. I admit that there is no normal round cell infiltration such as we find in acute infections, but the absence of leucocytes from the blood capable of amœboid movements should be remembered.

Taking a comparative view of acquired immunity we find that resistance to infective agents is mainly accomplished by phagocytosis and intracellular digestion, and also by other changes, such as the formation of agglutinins and antibodies from leucocytes and every cell in the body in general; an important part is also played by the "fixed phagocytes"—connective tissue and endothelial cells. Pathogenic bacteria are also known to protect themselves from antibacterial agents by the formation of impervious capsules or hypertrophy of their sheaths.[1] I may also cite the well-known fact that the tubercle bacillus in a giant cell secretes a fatty envelope which is protective against the ferments of the giant cell, and that the giant cell thus deprived of one means of attack deposits calcium salts, &c., around or into this envelope, in order to isolate the bacillus and its products. It is possible that pigmentation such as we find in this case is an analogous process. The immunising influence of fats and fatty substances is also of common occurrence.[2] These facts fit in with the chemical and physical characters of the pigment found in this case. On the little evidence we have at present on one case only we cannot decide whether this bacillus is pathogenic or merely living as an accidental saprophyte, but the facts are significant and I favour the former view. I regard this disease as one in which the first effects fall on the cellular elements of the blood or on their germinal centres, thus depriving the body of its chief defence, which now has to be performed by minor and less perfect means, such as phagocytosis by endothelioid cells and the formation and deposition of impervious substances. In the meantime further investigations into diseases showing leukæmic changes are necessary. It remains to account for the masses of lymphoid cells. I do not consider them to be wholly comparable to the infective granulomata but rather to be collections of already damaged leucocytes deposited in various places, such as lymph spaces around visceral vessels and subperiosteal spaces.

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[1] J. Bordet: Annales de l'Institut Pasteur, Paris, 1897, tome xi., p. 177, Planche V.

[2] E. Metchnikoff: Immunity in Infectious Diseases, Paris, 1901, p. 407.

DISEASES OF THE UPPER RESPIRATORY PASSAGES IN RELATION TO LIFE ASSURANCE.[1]

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LOOKING through the list of questions to be answered in the medical reports of several life assurance companies taken at random, one is struck by the absence or extreme paucity of reference to the upper respiratory tract, and one is tempted to ask the question,—Are there no serious troubles arising in these parts affecting longevity? or are there no signs nor symptoms to be looked for here which might guide us to the discovery of serious disease in other parts? True, there are difficulties obviously in the way of the examination of these regions, more especially the nose, post-nasal space, and larynx, and I am not going to suggest for a moment that any routine examination of these parts should be made in all cases, but, on the other hand, if you will bear with me for a little while, I will endeavour to show that perhaps more complaints than are generally supposed may have their origin here, and that sometimes the very earliest signs of very grave organic disease appear here, and, if recognised, put us at once on our guard in the same way as that in which one is put on the *qui vive* by unexpectedly coming across albumin in the urine. Also, as regards the nose, the physiology of this organ has of recent years had to be rewritten, and its functions have been found to be more numerous and important than was formerly supposed and consequently their abrogation by disease more serious.

Let us begin with the larynx, and ask what symptoms are there which should make a laryngoscopical examination of a candidate for life assurance desirable and what physical signs may be detected on so doing, for though the value of any laryngoscopical examination depends largely on the skill and experience of the examiner, yet it may be well to recapitulate briefly some of the principal points to be observed in relation to their value as indicating serious mischief. Speaking generally, we may say that the question of this examination is most likely to arise in young adults of poor physique and any adult about or just beyond middle life. Now the functions of the larynx are respiratory and phonatory, though the existence of the larynx is by no means a necessity for audible intelligible speech or respiration; therefore, the symptoms will be some change in, or interference with, phonation or respiration; and it having been decided to make a laryngoscopical examination, what abnormal appearances may be present to indicate to us the presence of disease which will have a bearing on the prospects of the candidate as regards longevity?

First of all, there may be loss of movement of the vocal cords; that is to say, the outward motion of the cords on getting the patient to take a deep breath, or the inward movement on getting him to phonate, is defective. Now this loss will be due to one of two main causes: either paralysis or mechanical interference. Let us first take paralysis. This may sometimes be due to a toxin, such as in diphtheria or influenza, when it has no special significance or may occur as part of a general poisoning such as from lead (two cases of cord paralysis from this cause I have seen) and from arsenic, as reported by Seligmüller and Heymann, but more commonly the paralysis is due to either (*a*) pressure on the nerve or (*b*) degeneration of it or its centres. Let us take pressure first. Now the laryngeal muscles, as is common knowledge, are supplied by the recurrent laryngeal nerve, a branch of the vagus, with the sole exception of the crico-thyroid, supplied by the superior laryngeal. As to the vexed question whether the ultimate origin of the fibres be the vagus or the spinal accessory, we need not, I think, trouble ourselves this evening, and I may say at once that paralysis from pressure on the vagus above the point of origin of the recurrent laryngeal is very rare but the recurrent itself in the course of development having been caught, as it were, by the aortic arch on the left side and subclavian artery (the representative of the fourth right fœtal arch) on the right, and looping round these structures, is peculiarly exposed to pressure here—e.g., an apical pleurisy or a pericarditis may says: "Leucoma is undoubtedly a very strong predisposing cause of cancer"; also, "It may almost be thought that the possibility that carcinoma may be developed in connexion with leucoma has been exaggerated, so much has been said and written of it lately, but we believe that the frequency of the event, so far from having been exaggerated, has been underrated, and that careful records will show a much larger proportion of carcinomas, which have been preceded by leucoma." And it may be said at once that if in these cases of leucoma any ulceration with induration be present we may be pretty certain that the carcinomatous stage has actually been reached. In fact, nowhere is a pre-cancerous stage shown more clearly than in the tongue, and the change going on from leucoma to cancer may be sometimes seen in different parts of the organ at the same time. Leucoma is all the more important because the subjective symptoms are apt to be so very trivial and the pain slight, so that the patient may be unaware of its existence till it is pointed out by the examiner. Ulcers of the tongue also are common and must always be looked on with suspicion, for they are not unfrequently the only indication present of active syphilitic disease, and when this is not present gouty dyspepsia or local irritation will be the most probable cause, but in all cases it is desirable to make quite certain what course the ulcer is going to run before giving a definite opinion. Tuberculous ulceration here or in the pharynx is almost always accompanied by well-marked pulmonary tuberculosis.

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[1] A paper read before the Life Assurance Medical Officers' Association on March 6th, 1907.

When examining the tongue a view can easily be obtained of the palate and one sometimes sees evidence of syphilis here in those apparently unaware of its presence. Also, by getting the candidate to protrude his tongue and say, "Ah!" we can eliminate the presence of any loss of movement of tongue or palate, such as, combined with laryngeal paralysis, we find in diseases affecting the bulbar nuclei or the surface of the medulla.

In concluding these few and I fear rather disconnected remarks I would submit for your consideration the question as to whether such queries as, "Do you ever suffer from hoarseness or difficult breathing?" "Can you breathe freely through your nose?" "Have you any mattery discharge from it?" and, "Is your tongue sore?"—might not each or any of them be put to candidates. Also, I should like to get the opinions of those present as to in what circumstances the medical examiner should advise his office to postpone the life until a further examination and conclusive opinion can be obtained. Not so very long ago a running ear was not regarded as having any very great import, but facts have shown this to be a matter requiring serious attention from the view of life assurance, and as our knowledge of rhinology and laryngology increases a pus-discharging nose may be found to have perchance an equal or even greater bearing on a candidate's prospects of longevity than a pus-discharging ear.

Cavendish-place, W.

SOME CLINICAL OBSERVATIONS ON MUCO-MEMBRANOUS COLITIS.

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DURING the last few years the attention of the profession has been increasingly drawn to the affection called muco-membranous colitis. It is an extremely common malady but one that is liable to be overlooked. Its importance is considerable not only on account of the local symptoms but more because of the secondary effects due to an auto-intoxication. It is the toxic poisoning arising from the condition which gives the real importance to the affection, since this toxin seriously impairs the health and gravely interferes with the well-being and usefulness of a large number of people. The principal objects of this communication are, first, to indicate the clinical manifestations useful in helping us to recognise the malady when there is no history of the evacuation of mucus from the bowel; and secondly, to describe the method of colon irrigation which has proved so beneficial in the treatment of such cases.

Muco-membranous entero-colitis is a chronic malady affecting the colon but occasionally implicating the lower part of the small intestine. The symptoms may run a continuous course or there may be intermissions followed by exacerbations. In respect to the local manifestations of the disease I shall merely indicate these, as it is unnecessary for me to dwell upon them since they have been well described by various English and continental observers. I shall, however, describe more fully the secondary features, not only on account of their importance to the patient but because they are helpful in enabling us to recognise the disease in obscure cases.

Many of the patients who are classified as neurotics or neurasthenics are sufferers from colitis and there is a causal connexion between their neuroses and the colitis. Indeed, so much is this a fact that most of the obscure cases of colitis can be recognised by the nerve symptoms accompanying the condition, especially when they occur in conjunction with other manifestations which I shall mention. Without further preliminary I shall enumerate the symptoms which usually occur in typical cases of colitis.

SYMPTOMS.

The patients complain of malaise; they have occasionally depression of spirits and irritability of temper; often there is sleeplessness or disturbed sleep, loss of memory, impairment of mental and bodily faculties; they are easily moved to tears, and they suffer from cold hands and feet. Though these symptoms may not be peculiar to muco-colitis, yet a surprisingly large number who complain of them are subjects of that affection. Should this group of symptoms or most of them occur in a patient then we ought to inquire into the state of the intestine. The cardinal symptoms referable to the abdomen are constipation, pain, and the evacuation of mucus. The constipation generally is of an obstinate and intractable character and occurs in the majority of cases. Sometimes it alternates with diarrhœa, but this is often spurious. A few cases, however, have habitual diarrhœa or looseness of the bowels. There is usually pain or discomfort in the abdomen and this is often referred to the cæcum, where it may be mistaken for appendicitis. The next most frequent site of pain is the sigmoid flexure, especially in those cases where spasm occurs in the descending colon. Here, as in the cæcum, we must be careful to distinguish it from ovarian pain. Pain may also occur in the hepatic and splenic flexures, also in the neighbourhood of the umbilicus. In respect to the evacuation of mucus many colitis patients are not aware that they are passing it from the bowels, either because the quantity is small or more often because it is evacuated in a state unrecognisable by the ordinary observer. If there is no history of the evacuation of mucus and we proceed to examine the patients there are certain features which aid us in detecting these obscure cases of colitis.

The first thing to be noticed in cases of long duration is that the skin is toneless and has a dull yellowish or dirty-brown tint. There are sometimes numerous pigmented patches in the skin, which may be elevated or not. The face wrinkles early and in many cases there is a curve round the angles of the mouth. Many patients are thin through atrophy of the muscles and loss of fat. The circulation is weak and the arterial tension is low. The tongue is often very large and beefy-looking, indented at the edges by the teeth, and in cases of long duration is deeply fissured at the edges and on the dorsum. This is characteristic of the condition. When the tongue is coated there is usually gastric catarrh or dilatation of the stomach. The lips are often cracked and in severe cases the buccal mucous membrane is affected with tiny ulcers. On examining the abdominal walls we usually find one of two conditions. Either the walls are thin and retracted, due to loss of fat and atrophy of the muscles; or they are loose and pendulous, producing the so-called "batrachian belly." By palpation and percussion information is obtained as to the state of the colon. The ascending and transverse portions are distended, whilst the descending is often contracted, especially in the neighbourhood of the sigmoid flexure. This contraction feels like a piece of indiarubber tubing. With deep pressure gurgling or crepitation can be felt chiefly in the cæcum. Auscultation often elicits splashing in the transverse colon when the abdomen is given a slight shake. The kidneys are frequently moveable, the right especially so. The fæces are sometimes pale in colour or pale portions may be seen with ordinary motions. Frequently the motions are attenuated, being of about the size of the little finger; this happens when there is a spasm in the descending colon. Again, they may vary considerably in appearance and consistence, sometimes occurring in small rounded masses or shattered and irregular. Scybala are disease; (2) tuberculous; and (3) syphilitic lesions. Taking first malignant disease, this affection loses some of its significance owing to the large proportion of cases which occur at over 50 years of age, but a considerable number are met with below 50, though of late years operative treatment—for such as are dealt with in the early stages—has rendered the prognosis much more hopeful. Fortunately hoarseness is commonly a very early symptom, a usual situation for the growth being one of the true vocal cords; therefore, suspicion being aroused, a laryngoscopical examination should be made, and in proportion as any growth present shows a tendency to infiltrate the parts and interfere with movement by its infiltration so the probability of its being of a serious nature is increased. Removal of a portion of the growth and its examination by a skilled pathologist is in doubtful cases the only way in which the innocence of a growth can be proved, and unfortunately here the objection is constantly raised that the piece removed may not have been deep enough to give a fair sample of the growth itself, and to get a sufficiently large specimen for a decisive opinion is often well-nigh impossible without doing serious damage to the parts. In the early stages of intra-laryngeal malignant disease glandular enlargement is improbable.

Laryngeal tuberculosis may be either primary or secondary, though the primary form is undoubtedly rare and opportunities of proving by post-mortem examination that it may exist are rarer still; yet, on the other hand, there are many cases in which the lung signs are very slight and others in which lung indications seem absent, but subsequent history shows that in all probability the lung affection preceded the laryngeal disease. These cases have considerable importance from a life assurance point of view, as they occur in young adults and more often in men than women, and also because the laryngeal symptoms may draw attention to the presence of pulmonary tuberculosis which possibly might be otherwise overlooked. In these cases there is commonly only hoarseness at first with perhaps tickling or pricking in the throat and irritable cough, and sometimes the history of a previous attack of laryngeal catarrh. On examination the first thing as a rule that strikes one is the peculiar pallor of the larynx, and the commonest position for the tuberculous deposit is the inter-arytenoid space where it may either form one or more slight swellings or a distinct tumour jutting out, so as to prevent the vocal cords coming into opposition and so interfering with voice production. The vocal cords and epiglottis are also commonly affected, but one of the points in differential diagnosis between an ordinary catarrh and these more serious troubles is the less general involvement of the parts in these latter. Thus one cord being swollen and not the other is a suspicious sign; of course, finding tubercle bacilli would clinch the diagnosis, but at this stage the sputa may be very scanty and contain none.

With regard to syphilis, in the secondary stage of this disease hoarseness is common, and I have known this lead to the discovery of the presence of this affection. In the tertiary stage it frequently affects the larynx, and then, as in other parts, simulates malignant and tuberculous disease and may attack any part. Speaking generally, it shows less tendency to warty growth and insidious infiltration than malignant disease and more dusky redness than tubercle. Age, sex, and past history help sometimes, but are apt to prove deceptive. The swelling is often marked and has the special danger here of interfering with respiration at first and also later sometimes by troublesome fibroid contraction.

Let us now pass on to the nose and naso-pharynx. Referring to books on physiology of 20 years ago we find, although referred to in a vague sort of way as affording the natural passage for respiration, yet the nose was accredited with very little beyond that of being the organ for the sense of smell, but owing to the work of Bloch, MacDonald, and others it has been shown to have certain duties in addition, and, if anything, more important—that is, more closely connected with health than olfactory ones. The inhalation of air at an improper temperature, or of too great a degree of dryness, or full of impurities is detrimental to the lower air passages and is apt to be a source of disease, but by scientific experiment it has been shown that however cold or hot within a very considerable range (– 7° C. to 45° C., MacDonald) external air may be, after passing through the normal nose it will be reduced to approximately the temperature of the blood, and at the same time, if dry, it will be saturated with moisture. Impurities are also removed; in fact, some have attributed a bactericidal action to the nasal mucus. These facts being allowed, there can be no doubt that all blockages here, whether due to adenoids, polypi, cartilaginous, bony, or polypoid growths, or consisting of hypertrophied mucous membrane, &c., by interfering with the proper air-way through the nose, have a very deleterious effect on the respiratory organs below and indirectly damage the general health and, at any rate, predispose to bronchitis, pneumonia, and pulmonary phthisis, which figure so largely in the tables of mortality of insurance offices. Besides, associated with the obstructed nose we get mal-development of the jaws and with them the teeth, so that mastication is interfered with and digestive troubles arise; also associated with congestion and obstructed drainage of mucus from the nose and its accessory cavities are middle-ear catarrh and suppuration. So marked is this in the case of adenoids that the suppuration often ceases like magic when the growths are removed. Besides these, there are other conditions here which bear upon the question of longevity. Let us just take the signs of epistaxis. This occurs commonly enough in children, where it has no special interest for us, but in young adults one must remember the possibility of fibrous polypus and sarcoma, hæmophilia, and the oncoming of typhoid fever and the various forms of anæmia, and it may be an early symptom of splenic leucæmia—and one must not forget that the lungs are often blamed for hæmorrhage, the seat of which is really the nose, the mouth, the pharynx, or the larynx; especially is this the case in instances in which spitting of blood is reported after the night's sleep, that is after the recumbent position has been assumed for some hours. As age advances, however, the significance of epistaxis greatly increases and hospital records show that in cases over middle life in which the hæmorrhage has been so severe as to necessitate them becoming in-patients a very large proportion are suffering from visceral disease of a serious character, the most common being cirrhosis of the liver and contracted granular kidney with urine of low specific gravity and a trace of albumin.

Another trouble which has some importance besides a discharge of blood from the nose is a purulent discharge, and this gathers in weight if associated with headache or pain round the orbit, for suppurative disease of the accessory sinuses and ethmoidal cells is common, and from time to time one sees recorded fatal cases arising from these troubles, and instances of this fatal result have been collected by Grünwald and others; but there is reason to believe that owing to the difficulties present in the way of accurate diagnosis this cause of intracranial disease has been overlooked in a good many cases. Considering the very large percentage of deaths claimed by tuberculous disease, it may be well to note how tubercle affects the nose, and it is very significant how close the nasal cavities are to the meninges, and also their being on the direct highway to the lungs, since tuberculous meningitis and pulmonary tuberculosis are so common. A large number of cases of tubercle in the nose have now been collected, and it may be either primary or secondary, the former being the rarer form and taking generally a polypoid shape, whereas infiltration with ulceration is that usual in the secondary variety. Tubercle bacilli have been found over and over again in adenoids and tonsils, though the latter showed no sign thereof externally except enlargement and frequent association with tuberculous lymphatic glands; probably moderate enlargement, apart from this, need not affect a policy.

Seeing that the back of the mouth, the tongue, and the soft palate, together with the pharynx, are used by both the respiratory and alimentary functions as common ground it would seem that consideration of affections of the upper respiratory tract should include these parts though they are often omitted. As regards the tongue, it should always be examined and no question of inaccessibility can be made here, one great reason being the valuable indications it may give of the candidate's past life, history and habits, such as a tendency to chronic alcoholism, as shown by the furred tongue inclined to tremor with a more or less characteristic odour of the breath. In chronic superficial glossitis, also, we have a complaint both common and important with its various forms or stages, as leucoma, psoriasis of the tongue, and the red glazed smooth form. Its exact etiology may be somewhat obscure, but syphilis, excess in smoking, and alcohol (especially spirits), stand out pre-eminently as contributors to its development, and gout and rheumatism are also believed by Mr. H. T. Butlin to be [illegible] and cancer this high authority: factors. As re the apparatus for washing out the colon. This consists of a double cylinder, with a float in the lower cylinder, which regulates the escape of water from the upper, so that the same pressure is maintained throughout. The cylinder glides on two graduated uprights which mark the height and pressure and is moved to the height prescribed. There are a thermometer attached to the cylinder and a gauge to register the quantity of water, both sufficiently large for the patients to observe for themselves whilst lying on the couch. One of the sulphur waters is used for irrigation. The quantity prescribed may be from 10 to 40 or more ounces for each douche and is usually repeated. The temperature varies from 96° up to 104° F. or more, depending on the condition of the bowel. A long tube is passed per rectum into the sigmoid flexure and the sulphur water gradually passes through it into the colon. This is retained several minutes by the patient and is then ejected into a flat-bottomed receptacle. The douche is always given by a skilled attendant, who examines the ejecta and reports to the medical attendant. Immediately after the internal douching the patient goes into an adjoining room and steps into a warm sulphur bath. Whilst reclining in this a hot douche is directed through the water to the abdominal wall. It is delivered through a large nozzle with numerous fine perforations and moved slowly over the site of the colon. There are several therapeutic actions produced by this internal and external treatment besides the mechanical one of cleaning out the intestine. The internal douche acts as a warm bath upon the intestine, the heat of this soothing it and the neighbouring organs. Then the sulphur water brought in contact with the mucous membrane produces its well-known action of diminishing catarrh and restoring the mucosa to a healthy condition. Again, Sir William Ramsay has found that the stronger of the sulphur waters used is radio-active, and doubtless this property is beneficial, producing a sedative effect upon the bowel and the body generally. Another important action of the internal douche is free diuresis. This arises partly from the kidney being stimulated by the hot internal douche, though chiefly from the absorption from the bowel of some of the sulphur water, part of which is retained and subsequently secreted. This flushes out the liver, kidneys, and tissues, and carries away some of the toxins already absorbed.

When we come to examine the effects of the external treatment we find the warm sulphur bath soothes the nervous system and induces a sense of comfort in the patient. It determines an increased flow of blood to the skin, stimulating its glands and improving its nutrition. This in turn has a healthy influence upon the colon as there is undoubtedly a close relationship between the skin and the intestine, a state frequently demonstrated in colitis. The external douche applied to the abdominal walls has an extremely soothing effect upon the colon, relieving pain and spasm when it exists. Further, the impact of the tiny jets of the douche stimulates the intestine and promotes muscular contractility in the distended portions. It is an interesting fact that the relief of spasm in one part of the intestine and increase of contractility in another will take place at the same time, probably from the irritation of the intestine being allayed. After four or five weeks of such treatment a marked amelioration is produced in the patient's condition. The catarrh is lessened, pain and spasm are alleviated, and constipation is relieved.

Coming to the general symptoms the first thing noticed is the improvement in the appearance of the skin. In a few days it becomes clearer and brighter. Next, if there is glycosuria it usually quickly disappears, as does also the stool pallor. Soon the patient feels better and becomes brighter and happier. The neuroses, which are generally the most troublesome features in severe cases, improve slowly, though in the milder forms of the affection they are soon ameliorated. One remarkable circumstance is the effect of treatment on a loose kidney. After some months of effective treatment it becomes much less moveable, and in some cases when recovery from colitis has taken place the kidney becomes practically fixed. In severe cases of colitis one course of colon irrigation is not sufficient. It must be repeated once or oftener after an interval, depending on the state of the patient at the end of the course and subsequently to it.

During the last three or four years this treatment has been employed at Harrogate in several hundred cases of colitis. The excellent results which have been achieved have exceeded [illegible] s. The results prove that the method is both rational and successful and that it is destined to become an essential part in the treatment of many cases. The same kind of treatment has been carried out at Plombières and Châtel-Guyon for several years.

Careful dieting during and after the course of douching is imperative. Foods which are easily digested and leaving only a small and unirritating residuum are best. In my experience the diet advocated by von Noorden proves unsuitable. Further, the patient should be instructed to eat only a small amount of animal food, since it is a fruitful source of putrefactive material. They require to be warmly clothed and be careful to avoid chills, which are apt to increase the catarrh of the colon. Warm bright sunshine is a valuable aid to treatment and sometimes is indispensable. Moderate exercise should be regularly taken in the fresh air, that of an upland or mountainous character being especially beneficial. Moderation is essential in food, drink, exercise, and pursuits. In short, the scriptural injunction: "Be ye moderate in all things," applies more to patients affected with colitis than perhaps to any others.

Harrogate.

A CASE OF CONFLUENT HÆMORRHAGIC ERUPTION IN VARICELLA.

BY CHARLES R. PORTER, M.R.C.S. ENG., L.R.C.P. LOND.

THE fact that varicella is usually such a mild disease no doubt accounts for the scarcity of literature found relating to its complications. Medical advice is often not sought at all, and there is no doubt that many cases occur which are not even recognised by parents of children who have the disease. Among the uneducated if the disease is recognised it is looked upon as a harmless affection called "the blisters" and no further notice is taken of it, the child in question being probably allowed to go to school as usual. There are, however, a few authentic illustrations of the fact that varicella can assume a serious and even dangerous character from the intensity of its infection.

The following case appears to me to be worth while putting on record for the following reasons. In the first place because confluence with hæmorrhage into the vesicles is apparently so rare; secondly, because it emphasises the fact that diagnosis is made so much easier by being allowed to observe the disease from its onset; and, thirdly, because a skin lesion occurring during the incubation period seems to favour an extensive eruption—in fact, in this case it seems to have been the determining factor in the severity of the local lesions.

The patient, a girl, aged 13 years, was first seen on August 8th, 1906, and was then suffering from a somewhat irritable papular eczema of the face and the backs of both hands. The forehead, nose, and cheeks were especially irritable. She was otherwise quite well. This condition quite cleared up within two days under an application containing oxide of zinc. It should be mentioned that when an infant the patient had been unsuccessfully vaccinated three times, and when revaccinated in 1902 it was successful in two places only. The only serious acute illness previous to the present attack was acute anterior poliomyelitis when the child was aged four years, from which very slight deformity results. On August 10th in the evening she complained of headache, lassitude, and pains in the limbs and a few spots were noticed on the chest. She played tennis that evening and was somewhat restless that night On the 11th she was out and about and one or two more spots were noticed on the chest. She was restless again that night. I was called to see her on the morning of the 12th, as a rash had appeared on the face. The temperature was 101° F. and the pulse was 80. There was the typical rash of varicella present on the chest, face, and limbs, and one or two typical vesicles on the buccal mucous membrane and soft palate. The rash was in different stages of eruption, showing papule, vesicle, and crust on the chest. There were no papules at the roots of the hairs on the forehead, and the wrists, back and front, were quite clear. The patient was quite comfortable and the irritation was practically *nil*. On the 13th the temperature was 101·6° and the pulse was 80. The eruption had further developed, especially on the face, the vesicles varying in size from a pin's head to a quarter of an inch in diameter. The rash was then so plentiful on the face that it would have frequent and are often imbedded in what seems an ordinary motion. The mucus which is voided varies in appearance and consistence. It is either glairy or membranous. It may resemble raw white of egg, or it may occur as strings or shreds, or as a whitish coating on the fæces. Frequently it is seen in cylindrical masses, which are casts of the intestine—in other words, false membranes. They vary from an inch or two to two or three feet in length. But it is to be borne in mind that the mucus is frequently evacuated unrecognisable as such by an ordinary examination. For instance, a mass of it may be so coated with the fæces as to resemble an ordinary motion or it may be so incorporated with the motion as to escape detection by simple inspection. However, when it does occur in this way the motion is always sticky and adheres to the utensil. Often undigested fat is found in the fæces.

In a small percentage intestinal sand has been observed. Some of my patients have passed it in very large quantities. Sometimes the urine is changed in character. It may be high coloured or have a greenish opalescent appearance, with a strong, well-marked odour due to an increase of aromatic substances. Again, it may be light coloured and passed in large quantities. These two conditions may alternate in the same patient. Sugar is occasionally found in the urine and disappears on an amelioration of the condition of the colon. Cystitis and even pyelitis may occur as a result of colitis with bacillus coli in the urine. I have observed this in several patients and the cystitis and pyelitis disappeared with the cure of the colitis.

One peculiarity which strikes us in connexion with the secondary symptoms is their greater intensity in the membranous form of mucus secretion. The explanation is simple. It is because the glairy mucus is voided comparatively soon after it is secreted, whereas the membranous is retained sometimes for many weeks. Now during its retention it adheres closely to the walls of the intestine and entangles in its meshes the residuum of food. Often one recognises in the mucus the remains of some particular article of diet eaten two or more weeks previously, proving a prolonged retention of the mucus in the bowel. The same may be found in scybala which find an anchorage in the sacculations so frequently present in the colon in colitis. Thus there take place a retention and accumulation of putrescible matter. In the process of putrefaction which takes place products are formed which affect the colon locally and the system generally. The products of putrefaction irritate still more the already irritable mucous membrane and tend to increase the catarrh. The gases which are generated keep up the distension in the ascending and transverse portions of the colon, whilst the effect on the descending colon is generally to throw it into a more or less constant state of spasm. Both these conditions—namely, of distension and spasm—interfere with peristalsis of the bowel and cause constipation.

In connexion with the secondary symptoms apparently the only hypothesis which adequately explains them is the following. During the process of putrefaction which takes place in the colon toxins are produced. These toxins are absorbed into the system, causing an autotoxis, of which the secondary phenomena are the consequence. This view of their causation is supported by the results of treatment. The symptoms depend upon the structures involved and the amount, intensity, and nature of the toxin. The following facts illustrate this statement. There is absorption of fat, both of the subcutaneous and that usually found elsewhere. For instance, the fat in which the kidney is imbedded is often absorbed. When this happens then this organ, having lost its support, is readily displaced. In every case of freely moveable kidney which has come under my observation I have found colitis in association. Another manifestation of autotoxis is muscle poisoning, both the skeletal and involuntary muscles being involved. Hence the patient is easily fatigued by muscular exertion and there is depression of the cardiac muscle, with weakness of the circulation, causing among other symptoms cold hands and feet. Moreover, there is interference with the biliary and pancreatic functions. As a consequence of this there are oligocholia, occasionally glycosuria, and the presence of fat in the dejecta. Then the neuroses, which are some of the most troublesome features of the affection, are due to, or are influenced by, this cause. Lastly, the dull unhealthy appearance of the skin is caused by these products of putrefaction.

ETIOLOGY.

The importance of the etiology of this complaint is too evident to be dwelt upon, but the subject is too extensive to be considered fully in this paper. I shall merely state some of the causes. First, as to the predisposing causes. It has been noted by various observers that many of the patients belong to a neuro-arthritic stock. In some the arthritic diathesis is well marked, in others the neurotic tendency is more apparent. It occurs at all ages, but more often between adolescence and late middle age, though children and old people are not exempt. Women are more prone to it than men. The malady is much more frequently met with among the well-to-do classes and those who live in towns than among the artisan or labouring classes or those who live in the country. Rich diet and large quantities of animal food are powerful agents in its causation, especially amongst those who live a strenuous life in large cities. Secondly, among the exciting causes occur debilitating illnesses, severe nerve or mental strain, shock, chill, also disturbances of the upper part of the digestive tract. Combe,[1] in his excellent book on the treatment of colitis, contends that the determining cause is a bacillary infection of the mucous membrane and says that the disease is capable of being transmitted from one patient to another. He advances a strong and carefully reasoned argument in favour of his view. That bacteria play a part in the disease is morally certain, but with all deference to the opinion of this able observer I submit it is still an open question that they are the cause of it.

PROGNOSIS.

Muco-membranous colitis is essentially a chronic ailment. It is seldom fatal unless grave complications arise. Some suffer from it in a slight degree and have an exacerbation from time to time. This is especially apt to take place in the spring but it may occur after injudicious feeding, such as a series of heavy dinners. These cases by appropriate treatment soon get well. The more severe cases usually require two courses of colon irrigation with careful management after; while the very severe cases with pronounced nerve symptoms may take several years of careful management with an annual course of colon irrigation before recovery takes place. In children colitis interferes with growth and development. With them recovery takes place if they are carefully dieted, warmly clothed, and placed in healthy surroundings.

TREATMENT.

Those who have much experience of these cases know how difficult the management of them is, great patience and perseverence in treatment being required by both medical attendant and patient. At the outset of treatment we naturally eliminate any known cause, so far as this lies in our power, but sometimes we find the exciting cause is no longer in operation. Next we must adopt the best means of overcoming the stasis of the bowel and procure a regular and complete evacuation of its contents. The necessity of this is apparent, since it is the retention of mucous secretion, fæces, products of putrefaction, and microbes which causes the constitutional disturbances and increases the local irritation. Moreover, requisite means have to be taken to improve the mucous membrane and the muscular coats of the intestine. For evacuation of the bowel aperients prove unsatisfactory in colitis. They never effectually clear the bowel without producing considerable local and general disturbance, and really aggravate the condition. As they lose their power in course of time the patient requires to take larger quantities and take them more frequently, thus making the local condition increasingly worse. Probably the best means of evacuating the bowel and at the same time lessening its irritation is by colon irrigation. When this is properly administered it clears the bowel more effectually than aperients do, and instead of having a pernicious effect its action is most beneficial. A somewhat extensive experience has taught me the value of this method and that it is by far the best way to commence the treatment of colitis. It has to be carried out with very great care and under certain restrictions, as it may do harm instead of good. But properly administered its value is undoubted. The fluid used must be of a bland unirritating nature. It must also be given under a low and equable pressure or painful spasm will occur and irritation of the colon. The temperature and the quantity of the fluid are also matters of importance.

A brief description of the mode of procedure employed at Harrogate will illustrate these points. The patient reclines upon a couch, at the foot of which is placed time of other investigators by calling attention to a ce of error which may not be adequately appreciated.

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[1] Traitement de l'Entérite Muco-membraneuse, par le Dr. A. Combe, 1905.

ome months ago I started investigating the proportions lbumin and globulins contained in pleural and ascitic ds derived from different cases of disease. The method pted was to separate the globulin fractions, known pectively as euglobulin and pseudo-globulin, by precipita- n with different degrees of saturation with ammonium sul- ate (the former being "salted out" in one-third saturated ation, the latter in one-half saturation). The precipitates re redissolved and coagulated by boiling and were then ighed. I was struck by the fact that a considerable ference was observable in the relative quantities of the o globulin fractions and of the albumin when estimations these were made in freshly drawn fluid and in the same id after it had been kept for a few days, although no signs decomposition were observable. I therefore made several timations in order to make certain of this phenomenon. e following figures are examples of the results obtained :—

—	Immediate.			Later.		
	Euglo-bulin.	Pseudo-globulin.	Albumin.	Euglo-bulin.	Pseudo-globulin.	Albumin.
scitic fluid A ...	1·1110	1·2771	1·1500	1·0850	1·3275	1·1210
" " B ...	1·2935	1·3150	1·5750	1·2400	1·6145	1·3175

here was thus in each case an increase in the amount of seudo-globulin in the fluid after standing, while the uglobulin and albumin decreased proportionately. In these xperiments the fluids were kept in the cold for three and our days respectively, without addition of antiseptics, and he figures represent grammes per 100 cubic centimetres of fluid. Several other estimations were made with similar results on fluids preserved for periods of several weeks by means of small quantities of chloroform-water, but the error of experiment was greater, rendering the actual figures unworthy of record. Possibly the action of the antiseptic caused some change. A somewhat different change was observed in the case of some serum from the slaughter-house, which was kindly put at my disposal by Mr. A. N. Leathem, bacteriologist to Charing Cross Hospital; here an increase took place in the amounts of both the globulin fractions, with a corresponding decrease in the albumin. The general effect was, however, the same—viz., an increase of the globulin present at the expense of the albumin.

On separating the different fractions by precipitation, re-dissolving them in water, and keeping them by addition of chloroform-water for some weeks, the same change was observed, but to a very minute extent compared with that in the fresh fluid. It thus seems probable that the change is due to the action of enzymes present in the original fluid, which are to a great extent destroyed or removed in the process of separation. If this be so, it is almost certain that the change in question is taking place in the effused fluid during its retention in the body, when the conditions are most favourable for the action of such substances. On this account it is that I venture to suggest that *estimation* of the albumin and globulins contained in pathological fluids, by means of the "salting out" method, is of no value, owing to the changes effected by time in the *apparent* amounts of these substances.

As to the exact nature of the change effected I cannot speak with certainty. Moll[1] considers that it is possible by the action of weak alkalies to convert albumin into globulin, and a similar action by enzymes in such fluids as I have investigated is clearly conceivable. On the other hand, Professor W. D. Halliburton, whom I consulted in the matter, points out that the change is more likely to be an alteration in solubility, not a change from one body to another, and this explanation appears much more probable. The chemical differentiation of albumin from globulin by hydrolysis and isolation of the resulting cleavage-products (globulin giving rise to glycocol, while albumin contains none of this component[2]) is unfortunately beyond my powers.

Harley-street, W.

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[1] Moll: Beiträge zur Chemischen Physiologie und Pathologie, 1905, Band vii., p. 311.

[2] Abderhalden and Pregl: Zeitschrift für Physiologische Chemie, 1905, Band xlvi., p. 24.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Fractures of the Odontoid Process of the Axis.

A MEETING of this society was held on May 14th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. STEPHEN PAGET read a paper, in the absence of the author Mr. E. M. CORNER, on Fractures of the Odontoid Process of the Axis. He said that the subject of fractures of the odontoid process had always been one which had been surrounded with mystery. The reason for this had been the same as in other and similar instances. The mystery was entirely due to lack of knowledge. Popularly, fracture of the odontoid process was supposed to be the lesion which resulted from the judicial execution of criminals. In a paper published in the St. Thomas's Hospital Reports, 1905, he had shown that this was not the case, but that the lesion occurred lower down in the cervical spine. In order to obtain a sure grasp of the subject a careful examination was made of all specimens which could be found in the various museums of the British Isles. After specimens and their clinical histories had been investigated the cases recorded in the literature were examined. Clinically, the result of the inquiry could be summed up as follows: there was no reason why a man should not fracture his odontoid process, as could be proved by the x rays, especially when the skiagraph could be taken through the open mouth, and recover without any spinal cord symptoms, such as paralysis or anæsthesia—in fact, with no more discomfort than that of a stiff and painful neck. It would seem that there was more danger, except in cases which had spinal symptoms, from overlooking the fracture than from the injury itself. This was the happy side of the clinical picture. The other was the penalty, instant death, which was sometimes exacted if the injury was overlooked. In fact, fractures of the odontoid process fell into line with what was the case with regard to other fractures of the upper cervical spine[1]—namely, that the subjects may have no more symptoms than a stiff and painful neck. So that it was possible to go further and generalise that all cases of injury to the neck should be skiagraphed and examined by a skilled radiographer—for it was easy for one unskilled in the interpretation of spinal skiagraphs to overlook the injury—so as to avoid the risks of overlooking a fracture.

The PRESIDENT referred to two cases of fracture of the odontoid process in which the men were able to continue work without discomfort for about five months and then suddenly developed paralytic symptoms and died. He also referred to destruction of the odontoid process by disease.

MEDICAL SOCIETY OF LONDON.

General Meeting.—Mobility of the Kidneys.—Some Heart Affections without Murmurs.

A GENERAL meeting of this society was held on May 13th, Sir EDGCOMBE VENNING, a Vice-President, being in the chair. The annual reports of the council, of the house and finance committees, and of the librarian were received and adopted. The following gentlemen were elected to hold office during the ensuing year:—President: Dr. James Kingston Fowler. Vice-Presidents: Sir John Tweedy, Sir Edgcombe Venning, Sir Lauder Brunton, and Sir Felix Semon. Treasurer: Mr. John Langton. Librarian: Dr. Arthur Francis Voelcker. Honorary Secretaries: Dr. Frederick John Poynton and Mr. Thomas Herbert Kellock. Honorary Secretary for Foreign Correspondence: Mr. H. J. Waring. Council: Mr. Robert Cozens Bailey, Mr. Charles A. Ballance, Mr. Leonard Bidwell, Dr. J. Rose Bradford, Dr. Edmund Cautley, Dr. Bertram Dawson, Dr. John H. Drysdale, Dr. Wilfred Harris, Dr. Robert Hutchison, Mr. Francis Jaffrey, Mr. Corrie Keep, Dr. C. A. S. Leggatt, Dr. Percy Lush, Dr. Joseph A. Ormerod, Dr. J. Porter Parkinson, Dr. J. S. Risien

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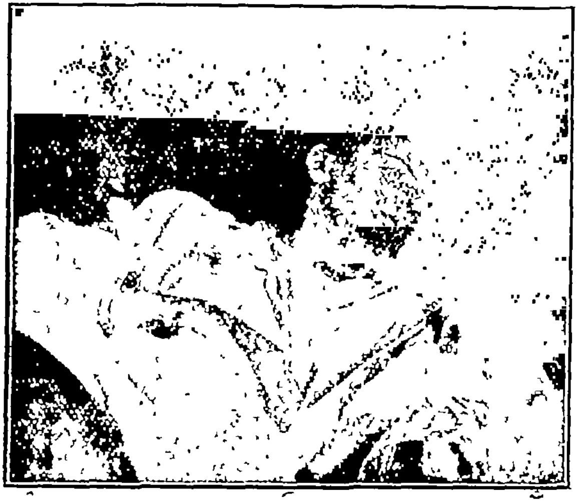
[1] Transactions of the Clinical Society 1903, 1904, and 1905.

been impossible to find a free area of the size of a sixpence. The roots of the hairs were, however, still practically free, though there were, of course, many vesicles on the scalp. The chest and back were literally covered and the eruption was very plentiful on both arms and legs, back and front. The general condition was good, the patient being quite bright and cheerful and free from discomfort. On the 14th the vesicles on the face had become confluent in three places—viz., five on the forehead, three over the course of the right temporal artery on the forehead, and four on the right side of the neck over the sterno-mastoid muscle; the latter are well shown in the accompanying figure. The temperature was 101·6° and the pulse was 84. There were more crops out on the legs and arms and even on the soles of the feet and palms of the hands. One single vesicle in the left mammary region just above the left nipple had attained a diameter of half an inch (? "varicella bullosa"). The general condition was quite satisfactory, the intellect was clear, and the patient was cheerful with a fair appetite. On the 15th, after a somewhat restless night, the morning temperature was 103°. The tongue was furred but moist. The pulse was 100 and of good volume. The heart sounds were clear. The urine was of specific gravity 1020; it contained no sugar or albumin. The eruption was, if anything, more exaggerated than on the previous day. The face was swollen, especially under the eyes, and had the appearance of being inflated. Hæmorrhage had taken place into the three regions where the eruption had become confluent; the surface of the pocks in these regions being somewhat flattened but intact and the pocks were dark purplish-black in colour. The eruption was present on both pinnæ and between the toes and fingers.



The patient at this stage certainly presented an alarming appearance, but even on this day (August 15th) was quite cheerful and expressed herself as feeling "much more comfortable." The only complaint had been that the "face felt very stiff all over." Had she been seen for the first time at this stage there might have been some reasonable doubt as to the diagnosis. The following seemed to be the chief points in the differential diagnosis between variola and varicella: 1. There was an epidemic of varicella in the neighbourhood and the patient had been exposed to infection. 2. After the first day or so of the disease there were no pains or other symptoms giving rise to discomfort (such as acute pain in the back) and the intellect remained clear throughout except for occasional wandering at night. 3. The eruption came out in definite crops and the papules had never at any time the shotty feel of small-pox papules. 4. The wrists and roots of the hairs at the forehead were the only parts of the body that were particularly free from the eruption throughout. 5. The great abundance of rash present on the trunk and the character of the vesicles which never had any deeply infiltrated areola about them. 6. The absence of any prolonged period of invasion (the patient was out and about with the rash present on the chest). 7. Successful vaccination within four years. 8. The fact that 16 days after contact with the patient her sister developed typical varicella, which ran a severe course, with abundance of rash and high pyrexia. It might be mentioned in addition that there have been no cases of small-pox in the neighbourhood for the past 10 or 15 years to my knowledge.

The subsequent course of the case was quite uneventful. On August 16th the temperature fell to 99·5°, and many of the vesicles had changed to crusts. No more hæmorrhage occurred and the patient made an uninterrupted recovery. (The photograph reproduced was taken on August 16th, the sixth day of the disease.) The last scabs to come off were those into which hæmorrhage had occurred, and this took place just four weeks from the onset of the first symptoms. The local treatment employed was a mask of carbolated vaseline for the face and occasional sponging of the rest of the body and limbs with a 1 in 60 carbolic acid lotion. The room was kept darkened throughout the acute stage of the eruption. There was at no time any evidence of marks of scratching, and as the patient had had her hands bound up as a precaution and had been very carefully watched night and day the element of traumatism as a cause of the hæmorrhage could be quite excluded. It was indeed a notable fact that there was very little irritation of the face, this being mostly confined to the trunk and limbs where no hæmorrhage took place. Unfortunately there has resulted considerable scarring where the rash was confluent. It is an interesting point that keloid has developed in two places—viz., where the rash was confluent and hæmorrhagic over the right sterno-mastoid, and also where the largest pock occurred, over the left nipple.

The only references I can find to the occurrence of a hæmorrhagic eruption in varicella are: 1. in an article by Dr. J. MacCombie in Allbutt's "System of Medicine," Vol. II., p. 181, where he says: "This form is very rare [i.e., hæmorrhagic varicella, to which he is referring], and the vesicles are usually few in number. Large and small ecchymoses appear with hæmorrhages into the cutis under the vesicle, accompanied by hæmatemesis and melæna." 2. Osler in his "Principles and Practice of Medicine," p. 70, says, "Cases have been described by Andrew of hæmorrhagic varicella with cutaneous ecchymoses and bleeding from the mucous membranes." On referring to Andrew's paper in the Transactions of the Clinical Society of London, 1890, it will be found that the cases described are very similar to Dr. MacCombie's description, being complicated by hæmorrhage from the mucous membranes. Savill[1] says: "Untoward symptoms such as gangrene and hæmorrhage into the vesicles are rarely met with." With regard to cicatrices Osler says: "Indeed, cicatrices after chicken-pox are not so very uncommon. They are in my experience more common than after varioloid."

Since writing the above, further information with regard to the literature has come under my notice, viz., E. W. Goodall, in an article on varicella in the *Medical Annual* for 1907, quotes three cases, by Rundle,[2] Neech,[3] and J. D. Rolleston[4] respectively. In Rundle's case there was hæmorrhage from the mucous and cutaneous surfaces but no confluence. In Neech's case there was confluence but no hæmorrhage. In Rolleston's case there were both In the *British Medical Journal* of May 4th, 1907, p. 1051, there is an article on accidental rashes of varicella by J. D. Rolleston, to which is appended a very extensive and complete bibliography, in which the above cases are quoted.

Great Berkhamsted.

A NOTE ON THE ALBUMINOUS BODIES PRESENT IN PATHOLOGICAL EFFUSIONS.

By W. CECIL BOSANQUET, M.A., M.D. OXON., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO CHARING CROSS HOSPITAL AND TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.

THE following brief note does not profess to add anythin to our knowledge of the nature and proportions of th different albuminous bodies which occur in pathologica effusions, but is written merely in the hope that it may sav

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[1] System of Clinical Medicine, vol. i., p. 591, 1905 edition.

[2] THE LANCET, June 16th, 1906, p. 1692.

[3] [illegible]

[4] Britis

Dr. HERBERT S. FRENCH and Dr. M. G. LOUISSON communicated a paper entitled "On the Extent to which Widal's Reaction persists after Recovery from Typhoid Fever." 135 patients had been traced who, whilst in Guy's Hospital with typhoid fever, had given Widal's reaction, the standard being clumping within half an hour in a dilution of 1 in 200. The test was repeated with these patients at periods after the illness varying from two months to ten years. It was concluded: 1. In 7·5 per cent. of the cases a complete reaction was obtained, in 22·5 per cent. an incomplete one, and in 70 per cent. no reaction. 2. The interval that had elapsed after the illness made comparatively little difference. It would almost seem as if the cases that persisted at all persisted perhaps indefinitely; several cases lasted eight years. 3. A complete reaction was present in 11 per cent. of the men and in none of the women. 4. Suppurative complication made it only slightly more probable that the agglutinative power would persist. 5. Age bore no relation to the likelihood of persistence.—The PRESIDENT remarked that he had found the bacilli in the bone complications of typhoid fever three years after the fever.—Dr. W. P. HERRINGHAM discussed the question of second attacks in specific fevers. This bore no relation to the severity of the first attack or to age. In measles women were more likely to suffer from a second attack than men, though the reverse held with typhoid fever. —Dr. FRENCH, in reply, said he had not examined the cases for bacilluria and it was possible that the persistence of bacilli might be correlated with the persistence of agglutinative power.

Dr. LEONARD G. GUTHRIE and Dr. W. D'ESTE EMERY communicated a paper on Precocious Obesity and Hirsuties, with Hypernephroma. The patient, a boy, aged four and three-quarter years, was 36 inches high, and weighed over four stones. There was a large general growth of hair, but the genital organs were not developed. There was marked general obesity, especially pronounced in the cheeks and mammæ. After death from pulmonary tuberculosis a hypernephroma was found on the left side; microscopically it was found to consist chiefly of necrobiotic cortical adrenal tissue; many giant cells were present. It was probably a carcinoma, although there was no infiltration or metastasis. Another case was also described which had occurred in a girl, aged three and a half years, who was 30 inches high and weighed 37 pounds. In the preceding three months she had grown an inch and gained six pounds. She measured 26 inches round the abdomen and 13 inches round the thigh. There was general obesity with pendulous mammæ. She had the appearance of a woman aged 50 years. The cheeks were bloated and blotchy. There were lineæ gravidarum on the thighs. Hair grew on the pelvis at the age of three years but the sexual organs were not developed. At the necropsy no growth was found but the adrenals were not examined microscopically. In both cases the pulse was very intermittent and the intelligence was good. The cases collected by Bulloch and Sequeira were criticised and stress was laid on the general obesity of the majority of them, nine of the cases being girls and two boys. In 12 cases the growth was on the left side, and in two on the right.—Mr. RAYMOND JOHNSON referred to a case which he had seen of a boy, aged 14 years, with enormous muscular development and hirsuties. The boy had had to shave daily since the age of ten years. A large perithelioma of the adrenal was present and slowly proved fatal.—Mr. JOHN D. MALCOLM spoke of a woman, aged 50 years, who had had a large adrenal tumour removed by operation. An overgrowth of hair had been developing for years and she had had to shave daily.—Dr. F. PARKES WEBER divided the cases into two groups: (1) those with great muscular development, and (2) those with precocious obesity. He separated the latter cases, with a bloated stretched skin, from cases of "excessive obesity." There was a case on record in a boy in whom such symptoms, including a beard, had disappeared after removal of a testicular tumour; might an adrenal tumour grow in connexion with the testicle?

LIVERPOOL MEDICAL INSTITUTION.

Nucleo-albuminuria simulating Myelopathic Albumosuria.—Intra-tracheal Injections of Izal in Bronchiolectasis.—Epidemic Cerebro-spinal Meningitis.—Renal and Ureteral Calculi and Renal Tumours.

A MEETING of this society was held on May 2nd, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. T. R. BRADSHAW related the case of a lad, aged 17 years, in whom Nucleo-albumin in a large amount was mistaken for Myelopathic Albumose. The patient when seen was greatly emaciated and exhausted and died in about a week. The urine contained about 1 per 1000 of a protein body which gave a turbidity when the urine was gently warmed with acetic acid and which coagulated with hydrochloric acid. There were a remarkable deformity of the sacrum and tenderness over the upper ribs. The necropsy showed extensive matting of the intestines from tuberculous peritonitis, marked lordosis, and inflamed glands under the pectorals. The bone substance was normal. After removing the urinary salts by dialysis the protein was found to be precipitated by a trace of acetic acid and gave the other reactions of nucleo-albumin. The significance of nucleo-albuminuria was not understood.—Dr. HUBERT ARMSTRONG remarked that nucleo-albumin occurred in the urine of children with some frequency. Precipitating with acetic acid in either hot or cold solutions, nucleo-albumin was occasionally mistaken for serum-albumin when the acid was not added to the urine until after boiling. In none of the cases which he had seen could he attach any clinical significance to the presence of nucleo-albuminuria.

Mr. COLIN CAMPBELL and Dr. MASSON communicated a case of Bronchiolectasis and exhibited the patient, a male, aged 38 years. When two years of age he had a severe attack of German measles with pneumonia and when 12 years old another attack of pneumonia. After the first attack he had never been free from cough. He came under Dr. Masson's care in 1901 and was then expectorating about a pint of glairy mucus twice in the 24 hours. The physical signs were practically confined to the lower lobe of the left lung. There were marked clubbing of the fingers, typical odour, and much emaciation. For four years his condition grew worse in spite of all treatment and the patient spent the winter in bed. At the suggestion of Dr. J. Dreschfeld, who saw the patient in consultation with Dr. Masson, the patient was placed in Mr. Campbell's charge for intra-tracheal treatment. This treatment was commenced in May, 1906, and continued until December. About two and a half ounces of a 9 per cent. solution of izal in glycerine was administered daily, and by means of Mr. Campbell's revolving chair the medicament was sent directly into the diseased part. While not liking the word "cure," Mr. Campbell claimed that it looked as if the patient had been cured. He had spent the last winter at work on his farm instead of in bed, had gained 16 pounds in weight without any attempt at fattening, the clubbing of the fingers had disappeared, and there were no cough and no expectoration.—At the request of the PRESIDENT, Sir JAMES BARR examined the patient and reported that he agreed with Mr. Campbell's estimate of the effect of the treatment.

Dr. CLAUDE RUNDLE and Dr. R. STENHOUSE WILLIAMS gave a full account of a case of Cerebro-spinal Meningitis. The opsonic index was first determined on the twenty-third day of the disease and the vaccine was first administered on the twenty-seventh day and for the fifth and last time on the thirty-first day. The coccus was obtained in pure culture from the cerebro-spinal fluid on Löffler's blood serum. It stained with the usual aniline dyes and was Gram negative. As to morphology, there were cocci, diplococci, and tetrads; the adjacent surfaces of diplococci were flattened; no tendency to chain formation in liquid media was observed. Anaerobic cultures at 37° C. were negative and aerobic cultures at 20° C. were likewise negative. The behaviour of the organism was compared with that of three strains from Glasgow and one from Belfast in ascitic fluid, carbohydrate cultures at 37° C. The agglutination reactions were fully described. Dr. Rundle and Dr. Williams did not, of course, claim that the recovery of a single case was to be regarded as proof of the efficacy of the vaccine, but recovery after the patient had been almost *in extremis* and dating from the first administration of the vaccine was at least encouraging.

Mr. W. THELWALL THOMAS read a paper on Renal and Ureteral Calculi and Some Kidney Tumours. The cases of stone formed a series of 28 operated on since 1904, a large proportion being since 1905 when the x rays proved of great service in locating even tiny calculi. All the radiographs had been taken by Mr. C. Thurstan Holland. The most common symptom had been pain in the back of a dull aching character. This occurred in 17 cases, typical renal colic only occurring in nine. Colic was associated with hæmaturia and pyuria in three and with hæmaturia alone

Russell, Mr. Cuthbert S. Wallace, Mr. Charles Gordon Watson, Dr. F. Parkes Weber, and Dr. W. Essex Wynter.

An ordinary meeting of the society was then held and Dr. Hector Mackenzie read a paper on Mobility of the Kidneys. The communication was founded on the personal examination of nearly 4000 patients at St. Thomas's Hospital and the Brompton Hospital for Consumption. The condition was occasionally a cause of suffering and inconvenience or actual distress. Many cases were overlooked from various causes. The method of examining the kidneys followed by Dr. Mackenzie was described in detail. An abnormally moveable kidney was defined as one in which it was possible to get the hand completely above the upper end and to palpate the whole organ. A palpable kidney was one where, although the greater part of the organ could be felt, it was impossible to displace it so as to get above it. 2801 females of all ages were examined. Among these were 449 cases in which the kidneys were palpable and 515 in which the kidneys were moveable as defined. 1067 males of all ages were also examined. Among these were 25 cases in which the kidneys were palpable and 11 cases in which they were moveable. Thus among the female cases there were 18·4 per cent. of moveable kidneys and among the male cases only 1 per cent. Of the 526 cases of moveable kidney which were observed there was only one where the mobility existed on the left side alone. In 49 cases both kidneys were moveable. In 476 cases the right kidney only was moveable. The patients examined were suffering from a variety of complaints. Those affected with chest complaints suffered from moveable kidneys to as great an extent as those affected with dyspepsia or other disorder. It had long been supposed that child-bearing had an important influence in the production of abnormal kidney mobility but this supposition was not supported by Dr. Mackenzie's investigations. A certain degree of mobility was normal. Sex was the most important causal factor but this could not be accounted for by repeated pregnancies. As to symptomatology, out of 526 cases with definitely moveable kidney no fewer than 411 were wholly unaware of its existence. Dragging pain in the lumbar region was the most constant symptom, disappearing with rest. Dr. Mackenzie expressed considerable doubt whether moveable kidney *per se* could produce general symptoms such as neurasthenia or symptoms referable to other organs. The most efficacious treatment in severe cases was some kind of support; surgical measures were seldom advisable and were at the utmost only successful in about 57 per cent. of cases operated upon.—Dr. Victor Bonney in the main agreed with Dr. Mackenzie's conclusions. It was, however, advisable to examine the patient in the erect position. The degree of mobility was not a measure of the inconvenience likely to be suffered by the patient. In many subjects with lax abdominal walls the kidney came down by inspiration, but it would return with expiration. Much depended on the tension of the neurovascular pedicle and this would often be detected by finding the kidney in an oblique position and not finding an expiratory return. These were the two chief physical signs.—Dr. F. de Havilland Hall agreed as to the inadvisability of operation in the majority of cases. Great benefit might be derived from the feeding of these patients.—Mr. H. W. Wilson had investigated 60 cases operated on at St. Bartholomew's Hospital. Complete cure had resulted in 40 per cent. of the cases—i.e., all symptoms were relieved and the patient had remained well over a considerable period of time. After operating experimentally on cats he had found it best to decapsulate the kidney. It was better than simple fixation.—Mr. L. B. Rawling also took a more hopeful view of operation as a means of treatment. It was not necessary to remove the organ. It was essential to decapsulate the kidney and to remove the fat behind so as to give a firm attachment. It should be sewn up as high as possible close to the upper border of the twelfth rib.—Dr. S. West referred to the difficulty of diagnosis of a moveable kidney and to the advantage of examining by changes of posture. Percussion from the back was often helpful. Caution was required in advising such severe operations as those referred to.—Dr. C. M. H. Howell remarked on the usual absence of symptoms. Multiple pregnancies did not seem to have much influence in the causation. He advocated operation in acute cases or if urinary changes were present.—Mr. A. C. Butler-Smythe referred to the difficulty of diagnosis and advocated repeated examination. An accumulation of flatus was sometimes mistaken for a dislocated kidney.—Dr. Mackenzie replied.

Dr. Walter Broadbent (Brighton) read a paper on Some Heart Affections without Murmurs. He dealt chiefly with myocarditis, cloudy swelling, and fatty degeneration. In myocarditis there were an increase in the pulse-rate, rise of temperature, and some dilatation, especially of the right ventricle. In mild chorea or rheumatism it was often neglected, the patient not being sent to bed and the consequence was often a permanently damaged heart. Cloudy swelling was the commonest affection of the heart muscle, occurring in all febrile diseases; it was first studied by Stokes in 1839. The chief signs were a progressive weakening and shortening of the first sound, increased rapidity of the heart, and a disappearance of the apex beat; in bad cases the first and second sounds were often approximated. In typhoid fever were seen the most typical cases. In influenza cloudy swelling came on very rapidly and was a great danger. In diphtheria cloudy swelling quickly passed into fatty degeneration and though antitoxin had lessened this tendency it had not abolished it. Intermittence of the pulse during the febrile stage was a sign of great danger in influenza, diphtheria, and pneumonia, being usually a forerunner of acute heart failure. Dr. Sibson in 1873 first pointed out the great danger of distension of the stomach or colon to a heart weakened by fever or other disease. Pressure of a distended stomach through the diaphragm on the right ventricle often caused fatal syncope. Fatty degeneration occurred after acute illnesses, such as diphtheria, and in acute yellow atrophy of the liver, also in long diseases, such as pulmonary tuberculosis and cancer, but the most important cases were those arising in the latter half of life, some from obstruction of the coronary arteries and others without any known cause. The symptoms might be shortness of breath on exertion, faintness, præcordial pain, angina, vertigo, cardiac asthma, or epileptiform attacks with bradycardia. The pulse was short and unsustained. The apex beat was imperceptible and the heart sounds were weak, especially the first sound. Distension of the stomach or colon was a great danger in these cases also, bringing on attacks of angina or syncope and often being the cause of sudden death. In treatment Dr. Broadbent advocated a quiet life, massage in the evenings, and short courses of the iodides and strychnine alternating with other tonics.—Dr. West referred to the value of percussion as a means of diagnosing myocardial failure and to the importance of not allowing patients recovering from pyrexial conditions to leave their beds too soon.—Dr. F. J. Poynton had often found muscular failure and dilatation, without any valvular disease, in animals inoculated with the rheumatic diplococcus. He dealt with the treatment and advocated adrenalin and sodium formate.—The subject was also discussed by Dr. W. H. Willcox and by Dr. Parkes Weber; and Dr. Broadbent replied.

CLINICAL SOCIETY OF LONDON.

Gastro-enterostomy for Chronic Ulcer.—The Persistence of Widal's Reaction after Typhoid Fever.—Precocious Obesity and Hirsuties with Hypernephroma.

A meeting of this society was held on May 10th, Mr. H. H. Clutton, the President, being in the chair.

Mr. James Sherren read a paper entitled "Gastro-enterostomy for Chronic Gastric Ulcer; Healing of Ulcer Verified at Post-mortem Examination 28 Months Later." The patient, a man, aged 46 years, was admitted to the Poplar Hospital in October, 1904. He had had gastric symptoms for six years and for nine months had been in bed with severe pain which prevented him from taking solid food. An operation being performed a large ulcer was found on the lesser curvature. Posterior gastro-enterostomy being impossible on account of adhesions the anterior operation was done, with no loop. Great improvement ensued but 22 months later melancholia developed and the patient cut his throat. At the necropsy the stomach was found to be only adherent to the pancreas. The gastro-enterostomy opening admitted two fingers and the pylorus was also patent. The ulcer, examined microscopically, had healed completely. Mr. Sherren commented on the good results obtained through gastro-enterostomy, even when the ulcer was distant from the pylorus, so that excision was not the operation of choice even in such cases.—The President asked whether Mayo Robson's method of fixing the jejunum so as to make it lie from left to right had been adopted. He had used it as a routine measure for the past 18 months.—Mr. Sherren replied in the negative. He had tried Mayo Robson's method in later cases but had given it up.

the sinus back to the petrous. Considerable hæmorrhage had occurred from the sinus.—The discussion turned upon the prognosis as to recovery of hearing in those cases which recovered from the fracture.—Dr. MacBride considered that the subject was full of difficulties and that much would depend upon the amount of hearing present and the date of examination.—Dr. Urban Pritchard believed that any improvement would occur within the first three months following the injury, and Mr. Lake thought that fracture through the labyrinth must be quite incurable.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on May 9th, Dr. Heywood Smith being in the chair.—Dr. A. E. Giles read a paper entitled "Observations on the Surgical Treatment of Inflammatory Diseases of the Uterine Appendages based on a Series of 120 Cases." After referring to the absence of any necessity for vindicating the justification of surgical interference in such cases, Dr. Giles presented a tabulated list of cases in which he classified them into non-suppurative and suppurative. In unilateral salpingitis the main indication for operation was pain. In bilateral non-suppurative disease the uterus was retroverted and fixed in about half the cases. Tuberculous disease was unilateral in one case out of six. When suppuration was present 16·2 per cent. of the cases were unilateral. More than half of the whole series were bilateral and were probably due to gonorrhœal infection. As a rule it was not necessary to remove the uterus because of prolonging the operation and impairing the integrity of the pelvic floor. Salpingostomy was of little value when the tubes were occluded by inflammation. In separating adhesions it was easier to work from above at first and then from below, afterwards isolating the outer extremity of the broad ligament and clamping the ovarian arteries. The uterus tended to become retroverted after removal of the tubes and therefore ought to be fixed to the abdominal wall. In tuberculous salpingitis with hydroperitoneum flushing was advised but not otherwise. Drainage was best avoided in tuberculous lesions but should be used when there was a tendency to oozing or when the bowel was damaged. In acute septic peritonitis a large rubber drain was employed, but in other conditions gauze was inserted for 48 hours when necessary. The value of Fowler's position was emphasised, aided by repeated injections of saline solution.—Dr. J. J. Macan was disappointed to find that Dr. Giles so strongly recommended abdominal drainage rather than vaginal. Instead of simple section of diseased tubes he preferred excision from the cornu of the uterus. The danger of peritonism was much less when calomel was given after the operation.—Mr. Charles Ryall had discarded suprapubic drainage for vaginal some years ago.—Mr. Smallwood Savage believed that cases of acute pyosalpinx should be treated by a vaginal incision and drainage, as in some cases so treated both tubes and ovaries would resume their normal functions.—Dr. H. M. Macnaughton-Jones agreed that hæmatosalpinx occurred apart from ectopic gestation. He urged the necessity of increasing the resistance of patients so far as possible.—Dr. R. T. Smith, Dr. W. H. Slimon, and Dr. Heywood Smith also spoke, and Dr. Giles replied.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on May 8th, Dr. W. G. Dickinson, Vice-President, being in the chair.—Dr. Purves Stewart gave an address on the Cerebrospinal Fluid, its Diagnostic and Therapeutic Significance. After carefully explaining the details of the technique of lumbar puncture, pointing out the precautionary measures to be taken, the difficulties that might be encountered, and the manner in which they might be avoided or overcome, he described the characters of normal cerebro spinal fluid, comparing them with those found in various morbid conditions as regards the physical, chemical, bacteriological, and microscopical features, and showed the values which could be attached to the different states of the fluid for diagnostic purposes, with special reference to epidemic cerebro-spinal fever. Dr. Stewart, in dealing with the therapeutics of lumbar puncture, mentioned tuberculous meningitis, cerebral tumours, persistent tinnitus, fracture of the skull, uræmic coma, tetanus, and strychnine poisoning as illustrations of its beneficial use. The use of stovaine and adrenalin or of cocaine for the purpose of obtaining analgesia was fully entered into, Dr. Stewart expressing the opinion that spinal anæsthesia should be reserved for special cases where the use of a general anæsthetic was dangerous. The address was illustrated by lantern slides.—Mr. C. Ryall supplemented the address by giving his personal experiences of spinal analgesia in his surgical practice. He found novocaine the most efficient agent and recommended that the puncture should be made as high as the second lumbar interspace and that a portion of the spinal fluid should be withdrawn before the injection. Among other operations which he had successfully performed under such anæsthesia he instanced hysterectomy, excision of the rectum, and amputation of the thigh, each of them cases in which a general anæsthetic was contra-indicated.—Dr. Dickinson, Mr. E. Caudwell, Mr. J. Gay, Mr. Mark Robinson, and Dr. D. M. Aitken took part in the subsequent discussion.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on May 3rd, Dr. T. R. C. Whipham being in the chair.—The following were among the cases shown:—Dr. C. O. Hawthorne: Dextrocardia and Valvular Disease in a boy, aged 14 years. The cardiac dulness was on the right side and the heart's impulse below the right nipple; there was heard a systolic murmur which was conducted round the right side of the chest. A skiagram could not be obtained.—Mr. Hugh Lett showed a baby, aged seven months, with Multiple Fractures of the bones noticed at birth; skiagrams showed old fractures surrounded with callus. There were hydrocephalus and some evidence of rickets. The family history was good, but the mother had been in delicate health during pregnancy and had two bad falls during the seventh month.—Dr. F. W. Higgs showed a boy, aged three years, who while recovering from whooping-cough about two years ago, developed pain and swelling in certain joints. The lesions persisted in a subacute form and at present there was peri-arthritis of the joints of the wrists, ankles, knees, and cervical vertebræ. The spleen and glands were not enlarged. The disease was evidently toxæmic.—Mr. G. Pernet showed a case of Erythema Iris.—Dr. J. Porter Parkinson showed a case of Cerebral Tumour for which craniotomy had been performed. The optic neuritis, previously very intense, had disappeared and with it the weakness of sight, headache, vomiting, and convulsions, while the paralysis had improved in the face and arm. The tumour was probably a subcortical glioma.—Dr. D. C. L. Fitzwilliams showed a case of Multiple Exostoses in a boy, aged 10 years, on the long bones, ribs, scapulæ, and clavicles. He was the youngest of a family of seven; the mother and all her children had similar growths but had suffered no inconvenience and the growths had not increased after the first few years of life.—Mr. J. P. Lockhart Mummery showed a case of Erb's Paralysis of the Left Arm in a boy, aged three months, due to a difficult labour. Apparently the posterior cords of the brachial plexus had been ruptured, causing paralysis and electrical changes of the flexor and extensor muscles except the flexor sublimis digitorum. There were some adhesions in the shoulder-joint.

THE MIDDLESEX HOSPITAL.—The Duke of Connaught presided on May 10th at the festival dinner of the Middlesex Hospital, held at Prince's Restaurant, Piccadilly, London. His Royal Highness in the course of his remarks on the toast of the evening, "The Middlesex Hospital," said that the endowment was so poor that only 15 per cent. of their income came from invested funds. 35 per cent. came from various funds and the efforts of charitable people and the remainder was dependent on what the general public supplied. Every penny subscribed was so well spent that he believed of all hospitals the Middlesex was the most economically and efficiently managed. Lord Cheylesmore, the chairman of the hospital board, in responding to the toast, deprecated State management of hospitals; he believed if that day came it would be the worst day that could dawn for such institutions. Dr. J. Kingston Fowler and Mr. Andrew Clark also replied to the toast. Dr. Fowler said that the general public were apt to forget their indebtedness to the great general hospitals as centres of medical education, but the governors of the Middlesex Hospital had always loyally supported their medical school. The toast of "The Visitors" was submitted by Lord Derby and acknowledged by Sir T. H. Brooke-Hitching, the mayor of St. Marylebone. The Duke of Northumberland proposed the health of "The Chairman," which received a suitable response. The donation list amounted to £6500.

and pyuria alone in one case each. In seven cases pain in the back was associated with pyuria, in three with hæmaturia and pyuria, and in two with hæmaturia. Hæmaturia was the only sign in five cases and pyuria in 13 The cystoscope was of service in some cases by enabling ureteritis to be diagnosed but the important confirmatory evidence was supplied by the radiographs. The operative procedures that had been undertaken were then discussed. Seven cases of renal tumour were related and six of hypernephroma, hæmaturia being the chief symptom in all. All the tumours were removed by the lumbar incision, in one case prolonged anteriorly, the tumour weighing 5 pounds. Four of the hypernephroma patients were still quite well. In cases in which the kidney could not be made out by palpation cystoscopic examination enabled the affected side to be decided upon. A full epitome of the calculous cases had been compiled by Dr. R. E. Kelly; this was circulated amongst the members and the calculi and radiographs were exhibited.—The following gentlemen discussed the paper: the PRESIDENT, Mr. G. G. HAMILTON, Mr. THURSTAN HOLLAND, Dr. J. HILL ABRAM, Mr. RUSHTON PARKER, Mr. R. W. MURRAY, Mr. K. W. MONSARRAT, Mr. R. A. BICKERSTETH, Sir JAMES BARR, and Dr. E. T. DAVIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 3rd, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. James Adam showed: 1. A patient with Atrophic Rhinitis treated by Paraffin Injection. There had been purulent discharge since childhood, with crusting, &c. Solid paraffin (melting point 45° C.) was injected in quantities of about one cubic centimetre at a time. Sandemann's sucker was used instead of massage before injection. 2. A patient with Tuberculous Lesions of the inferior turbinal, the soft palate, the pharynx, the larynx, the tongue, the cervical glands, and the metacarpal bones. Both inferior turbinal bones were thickened and the right was ulcerated. The soft palate was ulcerated and there was a small ulcer at the back of the tongue. The epiglottis was greatly thickened, as were also the ventricular bands and the arytenoids. By injections of T.R. the opsonic index was raised from 0·63 to 0·94. Lactic acid was applied to the inferior turbinals with benefit. The patient was still working. 3. A case of Chronic Adenoma of the Face. A girl, aged 22 years, suffered from scab formation at the orifice of the left nostril five years ago. A swelling started at the inner canthus of the left eye and gradually extended down to the level of the mouth and beyond the outer aspect of the eyebrow. The inferior turbinal was very greatly swollen. The crusts were removed with peroxide of hydrogen and nitrate of silver was applied. The turbinal swelling was reduced. Iodide of potassium and thyroid extract were given. The œdema disappeared in two months.—Dr. Archibald Young showed a case of Subspinous Dislocation of the Head of the Left Humerus in a girl, aged ten years. There was a history of an instrumental delivery. Neither the anatomical relations nor the radiographic findings gave countenance to a diagnosis of true congenital dislocation and the completeness of the displacement, with the now almost normal condition of all the muscles of the affected limb (except those actually stretched over the displaced head—viz., the infraspinatus and teres minor), seemed to negative the view that the displacement might be secondary to injury of the brachial plexus. The position of the arm was characteristic and the whole extremity was shortened to the extent of several centimetres, the greater part of the shortening being directly due to the displacement of the humeral head. A point of great interest in the case was the strikingly free range of movement. For example, the power of elevation was almost equal to that on the normal side. This was due to the great accommodative mobility of the whole scapula upon the trunk. The movement of external rotation of the arm and, as a complement, of supination of the forearm and hand was, however, very much limited, and it was believed that this of itself was sufficient to justify the adoption of active means to replace the head of the humerus in its normal site. Probably this could only be accomplished by an open operation, but it was thought to be fully justified. A detailed demonstration of the shoulder and of the various movements was given and a series of illustrative photographs were shown; a radiograph showing the relations of the bony skeleton of both shoulders was also exhibited.—Dr. G. A. Allan read notes on a case of Primary Cancer of a Bronchus. The tumour blocked up the left main bronchus and there were a few isolated nodules in the lungs. The pericardium was directly infiltrated. The pleura was thickened and contained a few tumour masses. The left vagus and left recurrent laryngeal nerve were pressed on. Nodules were also found in the thyroid, cervical glands, and mediastinal glands. The liver was not implicated. The tumour was a scirrhous carcinoma. The symptoms were pain in the chest and left arm, breathlessness, hoarseness, cachexia, cough, and muco-purulent expectoration. The left arm was swollen. The left pupil was contracted and there was partial ptosis of the left upper eyelid. The left vocal cord was completely paralysed. There was sweating of the right side of the head and face.—Dr. W. B. Inglis Pollock read a paper on the Relationship of Myopia to School Work. His investigations among school children showed 1·7 per cent. at five years, 8·5 per cent. at 13 years, and 25 per cent. at 18 years. Over 50 per cent. of medical students had myopia. Almost all myopia originated during school life. This was due to the yielding eye of childhood. The prevention of near sight formed a large part of school hygiene. Medical inspection had been accepted by Parliament. It was of the greatest importance that the inspection of the eyes should be carried out by specially trained oculists. This was requisite, since the fundus of the eye should be examined on admission and every second year.—The following office-bearers have been elected for the session of 1907–08:—President: Dr. J. Walker Downie. Vice-presidents: Dr. R. Barclay Ness and Dr. Joshua Ferguson. Treasurer: Dr. Alfred A. Young. Editorial secretary: Dr. J. Scott. General secretary: Dr. Archibald Young. Councillors:—Section of medicine: Dr. N. Macnair, Dr. W. Grant, Dr. John Brownlee, and Dr. Donald MacAlister. Section of surgery: Dr. J. Laurie, Dr. J. G. Connal, Dr. A. McLennan, and Dr. M. L. Taylor. Section of pathology: Dr. Leslie Buchanan, Dr. R. Bruce Young, Dr. Leonard Findlay, and Dr. John Anderson. Section of obstetrics: Dr. R. Jardine, Dr. S. J. Cameron, Dr. John Lindsay, and Dr. W. D. McFarlane, jun.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on May 4th, Mr. A. E. Cumberbatch, the President, being in the chair.—Mr. A. H. Cheatle showed a series of 96 Temporal Bones exhibiting a condition which he called Infantile. The outer antral wall was thick, the mastoid process diploetic, and the compact bone increased in thickness. There were no mastoid cells. Surgically the condition was important because of the probability of disease spreading internally rather than externally, of the absence of external signs of suppuration, and the unusual forward position of the lateral sinus in these cases.—Dr. J. Donelan read notes on the Frequency of Marked Enlargement of the Pharyngeal Extremities of the Eustachian Tubes with remarks on 14 cases. Several members thought this was not such an unusual condition as had formerly been considered.—Dr. Donelan also showed a portion of the Temporal and Occipital Bones with attached Dura Mater showing an Occluded Lateral Sinus and read notes of the case.—Mr. R. Lake showed an Electric Otomasseur giving up to 18,000 vibrations a minute. In the discussion which followed the opinion was expressed by several members that otomassage was of only slight value.—Mr. C. G. Lee reported a case of Extra-dural Abscess in a patient, aged 35 years, who had had otorrhœa for 12 months. Symptoms of giddiness, vomiting, severe headache, and incoherency were present. Recovery followed a complete mastoid operation, during which it was found that the roof and posterior wall of the tympanum were absent.—Mr. Lee also read notes of a case of Chronic Otorrhœa in a child, aged ten years. After being knocked down in the school playground she complained of headache, vomiting, and pain in the right ear, followed in a few days by a rigor. At the operation there was extensive mastoid disease and suppuration round the lateral sinus, which was thrombosed. This was incised and the clot cleared out and complete recovery followed. A third case, somewhat similar to the last, following a blow on the ear terminated fatally. Here the sinus was not opened at the first operation, but two days later, owing to further symptoms, Mr. E. M. Stockdale removed nearly the whole length of the collapsed and cord-like jugular vein and much of the lateral sinus, the patient eventually dying from meningitis and pneumonia.—Dr. W. Milligan showed a Temporal Bone from a case of Fracture of the Skull. The fracture involved the middle ear and external auditory meatus, extending upwards and backwards into the occipital bone behind the lateral sinus and then through for the use of the student. The selection and mode of reproduction of the dissections are identical with those employed in the first volume—viz., multicoloured lithography, autotype (partly multicoloured), and the three-colour process. As might be expected in a work of this nature the illustrations are the most striking features and, without exception, all of them are accurate and most beautifully executed.

The digestive system is liberally dealt with in Section I. and the arrangement of the viscera according to their developmental origin should prove of great use to the student. Commencing with the oral cavity, of which there are some beautiful illustrations, the author then passes on to a description of the foregut, midgut, and hindgut. Under the last heading we notice that the portion of bowel between the termination of the sigmoid colon and the anus is simply called the rectum. Surely the modern anatomist would be justified in disagreeing with this form of nomenclature. This section also contains some very clear and instructive illustrations of the development and arrangement of the peritoneum which are well worth attention.

The second section is devoted to the respiratory system and contains many beautiful and striking drawings. The illustrations of the larynx are particularly good and their value is much enhanced by the colouring of the intrinsic and extrinsic muscles. The usual transverse and vertical sections of the thorax are given but by some oversight the numbers of the vertebræ through which the sections pass are omitted on the plates though referred to in the text. The genito-urinary system receives its full share of attention in the third section and here again the illustrations are beyond reproach. The main facts necessary for the proper understanding of the development of the uro-genital apparatus are emphasised and subsequently the various organs are fully described together with the perineal muscles and fasciæ. An excellent description of the heart and pericardium is given in the last chapter.

The book, besides being well bound, is printed on good paper and as a descriptive atlas leaves nothing to be desired.

Lehrbuch der Ohrenheilkunde für Aerzte und Studierende. (*Handbook of Otology for Physicians and Students.*) In 32 Lectures. By Dr. FRIEDRICH BEZOLD, Professor of Otology at the University of Munich. With 75 figures in the text and one table of diagrams of the tympanum. Wiesbaden: J. F. Bergmann. 1906. Pp. 346. Price 9 marks, or 9*s.*

A WORK from the pen of so renowned an otologist as Professor Bezold deserves most careful attention, for he is one of those who have striven hard to unravel the knotty questions of otology and to throw light so far as possible upon its intricate problems. The most striking feature of this book is the fact that in dealing with non-suppurative conditions of the middle ear Professor Bezold confines himself to a small number of headings of a somewhat unusual nomenclature. He speaks of obstruction of the Eustachian tube and its effects on the ear, giving to this subject only 11 pages, with three pages on simple otitis media chronica and dysacusis. He later describes otosclerosis, to which he devotes eight pages. Now this brevity alone may be somewhat surprising to those who on first taking up the book are immediately confronted with the question as to why the author has dealt so shortly with these conditions which between them include at least 60 per cent. of the cases of aural disease and entail a great amount of suffering on those afflicted by them. It is not that Professor Bezold, with all his great experience, does not feel himself able to be more explicit and more minute, but that the majority of otologists are striving to split hairs and to make subdivisions where none exist. This answer will, we think, strongly commend itself to those who earnestly seek a really rational nomenclature and subdivision of non-suppurative disease of the middle-ear. For there has been, it must be admitted, too great a tendency on the part of otologists to follow blindly in the beaten track and this must largely be due to the important rôle played by the Vienna school in otological education. The chapter on Acute Inflammation of the Middle Ear in Professor Bezold's work has, we think, an important bearing on the foregoing subject. Amongst the more important chapters in the book may be mentioned Chapter VIII. on the Tone Testing of Hearing. This should be read with great care, as embodying the views of perhaps the chief living exponent in these matters. Another very interesting portion is that on otomycosis. All the various parts of the work which are devoted to suppurative diseases are exceptionally interesting and of the very greatest merit. But the chapter which deserves the most careful reading is perhaps that on otosclerosis.

Professor Bezold's work is one which must almost of necessity be in the possession of every otologist, for although it is written as a text-book it contains so much valuable and instructive information that it is also a useful work of reference and we earnestly recommend its careful perusal to those who are interested in otology.

LIBRARY TABLE.

Invalid and Convalescent Cookery. By MARY E. BIRT. Bristol: John Wright and Co. 1907. Pp 23. Price 6*d.*—This little work will be found very useful. It gives a number of recipes for various delicate dishes. They, however, have the fault, which is obvious in so many cookery-books, of not being clearly expressed, and as cookery-books are of most use to the ignorant this is a mistake. For instance, in the recipe for bread sauce the author says that there should be taken an onion, a pinch of salt, and one or two peppercorns. This, of course, is quite right and will give the sauce a nice flavour, but then Miss Birt goes on to say that "cooks like to put in spice ...... but for invalids the sauce is better quite plain." It cannot be said that a sauce with onion and peppercorns is quite plain. We turn, as we always do in a cookery-book, to the recipe for custard pudding, and we find the following: "Beat up the yelk of an egg into a coffee-cup of milk, then add the white. Put into a well-buttered basin and steam 20 minutes." We are quite certain that this pudding made in this way would be simply abominable. If made according to directions there would be a lump of coagulated white of egg in the middle of the egg yelk and milk and the pudding would be greasy on the outside from the butter. A much better recipe would be to take half the white, to beat that with the yelk and both with the milk, to put the result into an ordinary jam-pot, and to bake the mixture in a very slow oven till it is just firmly set. Again, in the recipe for canary pudding Miss Birt says: "The weight of an egg in flour, butter, and sugar; soften the butter and mix it thoroughly all together; put into a buttered mould and boil two hours or longer." Does she, or does she not, mean that the egg is to be added to the other ingredients, for the recipe is quite uncertain on the point? And, further, what is "it"? We have pointed out these slips with no wish to find fault. Miss Birt has written an admirable little book on the whole and in the next edition we hope that she will take the opportunity of making any changes that are needful to render her meaning perfectly clear.

The Treatment of Diseases of the Digestive System. By ROBERT SAUNDBY, M.D. Edin., M.Sc. Birm., LL.D., F.R.C.P. Lond., Professor of Medicine in the University of Birmingham. London: Charles Griffin and Co., Limited. 1906. Pp. 133. Price 3*s.* net.—This little book is based on the author's experience and "is offered as a foundation upon

Reviews and Notices of Books.

The Practical Medicine Series. Vol. IX., Anatomy, Physiology, Pathology, Dictionary of New Words. Edited by W. A. Evans, M.S., M.D.; Adolph Gehrmann, M.D.; and William Healy, A.B., M.D. Series 1906. Glasgow: G. Gillies and Co. Chicago: The Year-book Publishers. Pp. 236.

This little volume, one of ten dealing with the progress made in the past year in medicine, surgery, and the allied sciences, contains short summaries of a number of monographs upon special subjects in anatomy, physiology, pathology, and bacteriology. The accounts given are in most cases sufficiently long to be intelligible and are in many cases illustrated by the authors' plates or diagrams, so that a considerable amount of valuable information is compressed within comparatively small compass. The section devoted to anatomy contains references to only five papers, an exiguous record which we hesitate to accept as a summary of the year's advance in applied anatomy. The section on physiology is also short but contains a useful *résumé* of recent work on regeneration of organs, protein nomenclature, and heart block among other subjects of practical importance. General pathology occupies the largest part of the book and contains a considerable number of references to recent research in regard to methods of diagnosis, the examination of the blood, the rôle of the spirochæta pallida in the genesis of the lesions of syphilis, and abstracts of other papers devoted to general or special pathology. A number of papers dealing with bacteriology are referred to in a separate subsection which is liberally illustrated by many good plates of spirochætæ of various kinds. The formation of antibodies and the use of antitoxic and antibacterial serums are also discussed. The book, though useful and representing a considerable amount of labour, is perhaps hardly representative of the year's advance, since there is a large preponderance of papers published in American journals or transactions. In the dictionary of new words appended to this volume in addition to words of recent origin a number of words of older standing are included. The proof-reading has evidently been very inadequately done as there are many misprints in the book. The scheme of the work is a good one and doubtless subsequent issues will improve in character and usefulness.

Les Taches de Koplik, leur Importance pour le Diagnostic et la Prophylaxie de la Rougeole. (Koplik's Spots, their Importance for the Diagnosis and Prophylaxis of Measles.) Par André Bing, Docteur en Médecine, Licencié-ès-Sciences. With one plate in colour. Paris: G. Jacques. 1905. Pp. 194.

Although it is more than ten years since the sign which bears his name was first described by Koplik, and in spite of the value which many observers in different countries have shown this sign to possess in regard to the early diagnosis and prophylaxis of measles, it has hitherto attracted very little attention in France and has been there regarded as of rare occurrence or of little value. The reason for this, according to Dr. Bing, are that the exact character of the spots have been overlooked and that they have not been distinguished from other buccal conditions superficially resembling them.

In the book before us he presents an exhaustive historical, clinical, and practical study of the condition which is both interesting and useful. The sign was described by Dr. Henry Koplik of New York in the *Archives of Pediatrics* for December, 1896, but many claims for priority of description have been made since the clinical value of the sign, so strenuously maintained by Koplik, has been generally established. All these claims Dr. Bing has carefully studied and he concludes that the most that can be said is "that it is not impossible that Flindt in 1878 and Filatow in 1895 had already seen the sign" and possibly also Bielski in 1890, but in any case he maintains that all the credit of the sign is due to the observer whose name it now bears.

In its typical and characteristic form Koplik's sign consists of a macule and a papule: the macule is a rose spot of irregular, star-like, or rounded outline; the whitish blue papule forms the central point of it and is alone the characteristic and pathognomonic constituent of the spot. It is usually only just large enough to be visible and never exceeds a diameter of one millimetre, consequently the statements often made that this central spot is from two to five or more millimetres in diameter show that other buccal eruptions are frequently mistaken for it. This papule projects slightly and can be felt with the finger; it is associated with a slightly rough or lustreless appearance ("*aspect dépoli*") of the mucous membrane, which is often of great value, since it appears quite early and persists after the actual spots have disappeared. The number of spots varies within very wide limits, being in some cases only one and in others several hundreds. After a time the rose spots tend to run together and coalesce but the white centres maintain their individuality. They are found only upon the mucous membrane of the lips and cheeks, and not, as some few authors have described, upon the gums, the soft palate, and the tongue. Dr. Bing maintains that such spots are the erythemato-pultaceous stomatitis described by Comby and not Koplik's spots; moreover, small punctiform vesicles occur upon the palate in a variety of conditions, including rubeola, scarlet fever, and influenza, as described by Koplik himself. The buccal eruption appears to go through a definite cycle which may take from two to six days to accomplish, but the disappearance is more or less abrupt since the small white spots become easily detachable and are removed by the buccal secretions, while ulceration never occurs. The diagnosis and the nature of the sign are carefully described and exhaustively discussed by Dr. Bing who then details his own observations. He concludes that the sign is pathognomonic of measles but that its absence does not prove that the patient is not suffering from that disease. With regard to the time of its appearance, he finds that it may appear from one to five days before the eruption but most often two days before; it reaches its maximum on the day on which the rash first appears on the face, commences to disappear on the full efflorescence of the rash, and does so completely from the second to the fifth day of the eruptive stage. He further considers the value of the sign in diagnosis and after an exhaustive study of the conditions likely to be mistaken for measles arrives at the conclusions that it is a sign of the utmost value and that in every case of illness in a child it should be sought, since it enables isolation to be carried out sooner than would be possible otherwise. The character of the spots has no bearing upon prognosis or on the severity of the attack. Dr. Bing's book concludes with a bibliography of 234 references and is a valuable study of the condition which we can cordially commend.

Atlas and Text-Book of Human Anatomy. Vol. II. By Professor J. Sobotta of Würzburg. Edited, with additions, by J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy at the University of Michigan. Quarto, pp. 194. London and Philadelphia: W. B. Saunders Company. 1906. Price 25*s.* net.

The second volume of this Atlas and Text-Book of Human Anatomy is the immediate continuation of the first and treats of the viscera and the heart. Professor Sobotta has considered it advisable to include the heart with the viscera since it is usually dissected in common with them and consequently this arrangement makes the atlas more convenient flies and other insects and ticks of considerable use. There are a contribution on a case of Distomiasis of the Liver and Rectum by Dr. Edward Cuffey and Some Observations on the Presence of *Spirochæta Duttoni* in the Ova of *Ornithodorus Moubata* by Captain R. Markham Carter, I.M.S. A short note at the end of the number states that some good results have been obtained in trypanosomiasis by following the treatment with atoxyl, discovered by Thomas and Breinl, with small doses of bichloride of mercury. The communication is made in the hope of inducing those who have opportunities of treating patients to give this method a trial.

The West London Medical Journal.—The April number of this journal contains an interesting article by Dr. F. G. Crookshank on the Prognosis and Treatment of Diphtheria. Among other advice we may note the counsel not to wait for the result of a bacteriological examination in a doubtful case but to give antitoxin at once, to avoid meat juices and essences out of tins and bottles, and to adopt tracheotomy rather than intubation in private cases. Mr. Stephen Paget writes on throat and nose cases in general practice, noting "that people nowadays of all classes, rich and poor alike, think and worry more over their noses than they did twenty years ago." Mr. John R. Lunn records a case of retroversion of a gravid uterus which simulated extra-uterine pregnancy.

The Birmingham Medical Review.—In the March number a paper on the Selection of Cases of Pulmonary Tuberculosis for Sanatorium Treatment, by Dr. J. Douglas Stanley, deals chiefly with the difficulties of early diagnosis; the author does not appear to hold that much assistance is to be expected in this from the use of x-rays. This issue contains also the conclusion of Mr. W. Edward Bennett's article on Results of Operation for Congenital Dislocation of the Hip, and a useful paper by Mr. William Billington on After-Treatment of Cases of Abdominal Section; the use of calomel is advised for intestinal distension, and good results are recorded from continuous irrigation of the rectum combined with drainage of the peritoneal cavity by a tube placed in the recto-vesical pouch, the peritoneum thus possibly becoming an excreting instead of an absorbing structure.

ASYLUM REPORTS.

St. Andrew's Hospital for Mental Diseases, Northampton (Report for the Year 1906).—During the year 1906 there were 91 admissions (35 males and 56 females), which is 13 more than in 1905. The average number resident was 410 (185 males and 225 females), being the same as that of the previous year. The discharges numbered 61 (18 males and 43 females), and of these 22 (seven males and 15 females) were discharged recovered, 11 (four males and seven females) relieved, and 28 (seven males and 21 females) "not improved." Touching on the subject of "recoveries," the committee of management states: "There has been a decrease of 24 in the number of recoveries. This is accounted for chiefly by the fact that every year the hospital gets more crowded with incurable cases, and steps are being now taken to remedy *this* by discharging from time to time incurable cases to make room for those who may derive some benefit from treatment, as suggested by the Commissioners in Lunacy in a former report." The percentage of recoveries on the total number of admissions during the year has been 20·0 for males and 26·28 for females, giving a total of 24·17, which is very low for an institution of this importance. 20 deaths (12 males and eight females) occurred during the year, and five of these (males) were cases of general paralysis. The numbers remaining on the books of the hospital on Dec. 31st, 1906, were 187 males and 225 females, making a total of 412. This number includes one voluntary boarder. This paucity of voluntary boarders would seem to indicate that patients are not encouraged to enter the hospital in this capacity. Mr. J. Bayley reports that there were no cases of infectious disease, serious accident, or suicide during the year. No balance-sheet is published with the report, but the committee of management states that the financial state of the hospital during the year has been very satisfactory—the income from patients being the largest since the institution was founded. The committee also states that during 1906 the number of patients who were assisted in their payments has been 77, of whom 36 belonged to the county of Northampton and 41 were out-county cases. The amount of assistance rendered to make up the payments to the lowest rates ordinarily charged was: county cases, £1944; and out-county cases, £1290; being £134 less than the previous year. The result of the working of the farm at Moulton Park for the past year has been most satisfactory, there being a favourable balance at the end of the year of £692.

Looking Back.

FROM

THE LANCET, *FRIDAY*, May 15th, 1829.[1]

ON THE USE OF TINCTURE OF HYOSCIAMUS, IN SCARLET FEVER.

By HENRY REES, *Esq.*, M.R.C.S.

HAVING read, in the last Number of THE LANCET,[2] Hufeland's observations on the use of belladonna in scarlet fever, I am induced to recommend to the notice of the profession a medicine which I have found highly serviceable in the same disease, and which may probably operate on the same principle—I mean the tincture of hyoscyamus. As surgeon to the "City Institution for Diseases of Children," I have had between two and three hundred cases of scarlet fever under my care, few of which have proved fatal. If not trespassing too much on your valuable pages, I will briefly describe the practice I pursue. In milder cases, I recommend leeches to be occasionally applied to the head, prescribe small and repeated doses of calomel and antimony, with gentle laxatives, (a mode of treatment proper in all exanthematous diseases,) and every two or three hours some of the liq. ammon. acetat. mixture, with small doses of ipecacuanha, and the t. hyoscyami. In severer cases, I apply leeches freely and frequently to the head and throat, administering the same medicines. My attention is chiefly directed to allaying the nervous irritability and excitement, for in proportion to such irritability and excitement, are the subsequent exhaustion and degree of danger. Opium is, in some cases, a valuable medicine. The prussic acid I have never tried, but should anticipate much good from its effects. Cold ablution is proper, especially when agreeable to the sensations of the patient. I prefer partial to general ablution, having seen two or three instances, and heard of others, in which fatal symptoms appear to have arisen from the excessive chill the system had sustained. As a *stimulant* in the stage of collapse, if I may be allowed the term, I find ammonia most useful.

The effect of medicines, the progress of the disease, and the appropriate measures, are indicated by the appearances of the tongue; should the tongue continue unchangeably parched, the disease will terminate fatally; immediately it *begins* to be moist, the calomel and antimony should be omitted, or salivation will be induced. In scarlet fever, as in all other diseases in which the tongue is dry and red, Epsom salts are injurious, though frequently prescribed; so are also the drastic purgatives, and, what are sometimes named, the "tonic-evacuants." The tongue, indeed, in most *diseases, is* my principal guide. On this subject I could say much, were I not fearful of extending these remarks to too great length.

45, Finsbury Square, May 4, 1829.

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[1] It will be noticed that this particular number of THE LANCET is dated Friday, May 15th, 1829, instead of Saturday, May 16th, 1829. We are at a loss to decide whether this was accidental or intentional but it may have been caused by the desire of the Editor to place in the hands of his readers that morning an accurate copy of the "Unlawful Disinterment and School of Anatomy Bill," the consideration of which had been postponed after repeated delays to that evening. The style of dating was not repeated in subsequent numbers so far as we have checked them.

[2] Vide "Looking Back" in THE LANCET, May 4, 1907.

which each reader may raise a more imposing superstructure." The introduction extends to one-third of the volume and a great deal that is valuable in the treatment of digestive disorders is considered in it. For the determination of the size and position of the stomach Dr. Saundby recommends larger powders than those often employed. We observe that arsenic is not to be found among the drugs recommended in the treatment of gastralgia. The section on the Indications for Operative Interference in Diseases of the Stomach will be a useful guide to the practitioner and will help him to give sound advice to his patients. The book is well and clearly written and is a practical guide to the subject of which it treats, the text being followed by a list of very useful formulæ. It is published at a moderate price.

The World's Classics. Vol. cxli., Edmund Burke's Writings and Speeches (vol. iv.), with an introduction by F. W. RAFFETY; vol. cxxiv., The Works of William Hazlitt (vol. v.) Lectures on the English Comic Writers, with an introduction by R. BRIMLEY JOHNSON; vols. cxxv. and cxxvi., The Works of Thomas Carlyle (vols. iii. and iv.), The French Revolution; vol. cxxxiii., Palgrave's Golden Treasury with Additional Poems. Henry Frowde, Oxford University Press. Price 1*s*. each net, bound in cloth, and in other bindings up to 5*s*. 6*d*. each net.—It was just over a month from the present time of writing that we reviewed a batch of these cheap and handy volumes, and now another five lie before us. If their rate of production is an index of the public demand for them we rejoice that the provision of such excellent literature at a merely nominal price may well be checking the inordinate consumption of worthless and ephemeral printed matter that bids fair to sap the spring of national taste in letters. Three of the present volumes deal with the French Revolution, two of them containing the immortal prose epic of Carlyle, which to praise now would be indeed to gild refined gold, and the third the more neglected writings of Edmund Burke on the first phase of that stupendous national drama. These are "Reflections on the Revolution in France, 1790," "A Letter to a Member of the National Assembly, 1791," and "Thoughts on French Affairs, 1791," of which we can say no more terse and accurate thing than is written in Mr. Raffety's preface to this edition: that although in this cause the verdict of history is against his reactionary pleading yet readers of it are forced to feel with Hazlitt that in arriving at one error he discovered a hundred truths. The lectures of this latter essayist on The English Comic Writers form the next volume; they cover a large number of the English classical authors, including, *mirabile dictu*, Dr. Johnson. They display a very keen and correct analytical faculty, but in reading them it is hard to repress a comparison with the contemporary critical work of Lamb, a contrast entirely in favour of the sweet and great-hearted nature that glows in every page of "Elia." "The Golden Treasury" of Palgrave, with additional poems, is the last book of this batch. It is late in the day to express our regard for an anthology which has formed the basis of nearly all subsequent collections of English general poetry—an anthology that spun a chain of gold from Shakespeare and Drayton to Shelley and Wordsworth. But we are inclined to cavil at the policy of binding up more recent poetry with this volume. The poems added are not the collection in the "Golden Treasury" second series, and we should have preferred to see an original nineteenth century anthology issued in a separate volume by the present publishers. The poems as they stand are not adequately representative; thus although they include such gems as a dozen of Tennyson's songs, "A Grammarian's Funeral," "Porphyria's Lover," "The Chambered Nautilus," "The Blessed Damsel," Henley's "Invictus," and several poems of Matthew Arnold, the last-named is not represented by "The Scholar Gipsy," "The Forsaken Merman," or "Rugby Chapel," and although the first version of Fitzgerald's "Omar" is included, and, later, there are several of Kingsley's poems, there is no line of Swinburne—a truly surprising omission.

JOURNALS AND MAGAZINES.

Folia Therapeutica.—The second number, dated April, 1907, of this quarterly of modern therapeutics and pharmacology fulfils the promise of its predecessor. An introductory Berlin letter from Professor C. A. Ewald gives a *résumé* of Ehrlich's recent researches on the lethal action of various aniline dyes on trypanosomes. Sir James Sawyer in a paper on "Fuming Inhalations in Asthma" pleads for the replacement of quack preparations of this nature by properly prescribed powders and gives several formulæ which he has found useful in dealing with spasmodic bronchial attacks. The longest article is a clinical lecture by Professor H. Senator of Berlin, "On the Causes and Treatment of Arterio-sclerosis," in which he advocates the "lacto-vegetarian" diet, and for drugs the iodides and nitrites in combination. He refers to the method of treatment by solutions of salts in quantities closely imitating those of the blood serum but does not speak positively on their value; he recommends giving the iodine as iodipin, and the use of this preparation in tertiary syphilis is the subject of the following article by Dr. G. G. S. Taylor and Dr. R. W. Mackenna of Liverpool, who speak highly of its efficacy in skin syphilides when given in full doses by the mouth. Dr. Arnold J. Edwards writes on Recent Therapeutical Advances in the Treatment of Gonorrhœa in the Male and advocates the local use of protargol. A contribution by Dr. V. Schnieden on the Theory and Application of the Hyperæmia Treatment of Bier might with advantage have been a good deal fuller as it deals with a subject of growing importance and one which deserves the general attention of the medical profession; it has a wide field of application and is easily put into practice. Dr. Schnieden advises the study of Bier's own book on the subject. Dr. Frank H. Barendt recommends eugallol, *inter alia*, in the treatment of psoriasis. Dr. Karl A. Grossmann has a paper on Dionine in Ophthalmic Practice. He has found this remedy valuable in various forms of keratitis, conjunctivitis, and other diseases. The last paper is a short note by Professor L. Brieger of Berlin on the Hydrotherapeutic Treatment of a few Constitutional Diseases, and the folia end with abstracts from various articles on therapeutics, amongst which is a laudatory notice of Kuhn's suction-mask for the production of passive hyperæmia of the lungs.

Annals of Tropical Medicine and Parasitology. Vol. I. No. 1. Liverpool School of Tropical Medicine.—Hitherto the work done in the Liverpool School of Tropical Medicine has been published in the form of memoirs, of which 21 have been issued. This has naturally limited the matter to the work done by the members of the staff and it was apparently felt that a journal in which work from other sources might be published would be more generally useful. It is for this reason that the "Annals of Tropical Medicine and Parasitology" has been instituted, the editors of which state that they are prepared to consider contributions from outside the school. This is a step in the right direction and will tend to facilitate the spread of knowledge with regard to the most recent work in the subjects dealt with. The first number of the annals consists largely of morphological descriptions of various insects and other arthropoda collected in the Congo Free State during the expedition of the Liverpool School of Tropical Medicine to the Congo in 1903–05. Medical men on the West Coast or in the neighbourhood of the Congo will find the observations and map of the distribution of various species of tsetse

DOUGLAS POWELL and Dr. TAYLOR. In their memorandum the work of LISTER and of PASTEUR and its enormous beneficial influence was commented upon, and particular instances were related in which bacteriological investigation has led to the improved treatment of disease. The nature and treatment of cretinism and myxœdema were also cited as valuable discoveries directly resulting from experimentation upon animals. Apart from the hard logic of facts which these witnesses brought to bear upon the question of vivisection, the concluding words of Sir RICHARD DOUGLAS POWELL'S evidence might be read with great advantage by those people who, carried away by sympathy with the dumb animal, overlook the sufferings of their fellow creatures. It is hard for them to realise, the President of the Royal College of Physicians showed, the intense longing for greater power over disease which possesses the medical man whose hours, whose days, and whose weeks are spent in the observation of suffering with which he is often able but partially to cope; to see, perhaps, a beloved child dying day by day, and to witness the harrowing distress of mind of the parents, is to feel that for the prevention of such misery as that even a hundred dogs might be sacrificed without blame. It is but just that the influence of sentiment should be evoked on one side when it plays so large a part upon the other. The anti-vivisectionist relies, as any calm perusal of the evidence given by Miss KENEALY and Mr. GRAHAM will determine, to no small extent upon purely sentimental considerations. Such considerations we are far from belittling, and we would have it recognised that in this matter true sentiment has as much argument to proffer in favour of, as against, the practice of careful experiment upon living animals. It is the biased sentiment that we deprecate which misrepresents facts, which maligns honest observers because they are scientific, and which ignores advantages because they are reached by the hated means. We sympathise, as we believe every man of science sympathises, with the humane affections which underlie the words and the actions of the anti-vivisectionist, but we appeal to him not to let the promptings of a kind heart lead to the indications of a weak head. Let him show not merely that he can sympathise with animals, but also that he can understand and appreciate the arguments of men when they demonstrate the widely beneficial influences of properly controlled experimentation upon living creatures.

The Registrar-General's Annual Summary.

THE Registrar-General's Annual Summary of Births, Deaths, and Causes of Death for 1906 has made its appearance this week, and we wish to congratulate the office upon its promptitude. We notice in the summary considerable improvements on the issues of previous years and to these we desire briefly to direct the attention of our readers. In submitting to the President of the Local Government Board the fifty-third issue of this summary the Registrar-General takes occasion to give an account of the scope and growth of the publication, and, incidentally, of the origin of vital statistics in London and other large towns. The earliest records which we possess of London mortality appear, according to Captain GRAUNT, to have begun towards the end of the sixteenth century. We learn, on the authority of Dr. WILLIAM OGLE, that these records, originally styled "The London Bills of Mortality," were compiled through the agency of the Company of Parish Clerks, and, as the main object was to give information concerning the progress of the plague which at that time was prevalent in London, this publication was discontinued with the cessation of that disease. From the beginning of the seventeenth down to the middle of the nineteenth century the old bills of mortality were published regularly, but in 1849 the bills of the old parish clerks came to an end, having been superseded in 1840 by the new bills published under the authority of the Registrar-General, which had relation to a much more extended area.

The first of the long series of annual summaries issued from the General Register Office during the last 52 years consisted of a pamphlet of only eight pages, which was issued by Major GRAHAM, the first Registrar-General, in the year 1855. Ten years after the first issue—viz., in 1865—particulars of births and deaths were added for seven large English towns, as well as for Edinburgh, Glasgow, and Dublin. The vital statistics of Vienna were also included for the first time in the annual summary for that year. In 1872 the list was extended so as to include 67 provincial towns and 11 foreign cities; and ten years later it was further extended to 78 towns and 30 foreign cities; while the present issue relates to London and to no fewer than 217 provincial towns and 38 colonial or foreign cities. So much for the expansion of the summary from a pamphlet of eight pages in 1855 to one of 76 pages with an excellent chart and complementary tables in 1906. But Sir WILLIAM DUNBAR tells us in his preface that the recent development of the science of vital statistics has necessitated a revision of the methods of calculation that passed muster in earlier years. Thus, we learn that for the present summary not only have the simple ratios of births, deaths, and marriages been presented in terms of the living at all ages but special estimates of particular sections of the population have been made for the purpose of expressing marriage-rates in proportion to the number of marriageable persons in the community, birth-rates in proportion to the number of women of child-bearing ages, and death-rates based on a standard population of the same age and sex constitution as that of the country generally. Having regard to the great and increasing public interest now shown in the important question of infantile mortality, the subject has been considered in reference to climatic conditions and an endeavour has been made to differentiate the deaths due to antenatal influences. Lastly, and to this point we attach considerable importance, the Registrar-General tells us that in order to furnish the earliest available information concerning mortality the data, as returned by the registrars, are now published in the annual summary; and although the details may require revision and some modification before their final presentation in the annual report, nevertheless in their provisional form they are now available to the public nine months earlier than in former years.

Turning to the vital statistics of 1906 we find that the marriage rate of England and Wales in that year, although

THE LANCET.

LONDON: SATURDAY, MAY 18, 1907.

The Royal Commission on Vivisection.

THE Royal Commission on Vivisection has issued its second report consisting of the minutes of the evidence taken during the months of February and March, 1907. The following are the names of the witnesses whose evidence is contained in the minutes:—Mr. W. H. POWER, C.B., F.R.S., principal medical officer to the Local Government Board, representing the Local Government Board; Dr. A. R. CUSHNY, F.R.S., professor of pharmacology and materia medica in University College, London, representing the committee of medical and scientific societies; Lord RAYLEIGH, O.M., President of the Royal Society, and Sir R. DOUGLAS POWELL, Bart., K.C.V.O., President of the Royal College of Physicians of London, representing their respective bodies; Dr. FREDERICK TAYLOR, senior physician to Guy's Hospital; and Mr. J. W. GRAHAM, principal of Dalton Hall, Victoria University, Manchester, and Miss A. KENEALY, L.R.C.P. Irel., representing the Parliamentary Association for the Abolition of Vivisection.

The evidence contained in this report may be read with much satisfaction by fair-minded and humane persons. They will be well satisfied, we think, that the safeguards which in this country are erected against needless infliction of pain on lower animals are both sufficient and efficient. The evidence given, for example, by Mr. POWER, which demonstrates exactly the position of the Local Government Board in the matter of vivisection, shows indubitably the necessity for animal experiments in the public interest, while bringing out the fact that such experiment in the case of investigations required by the Local Government Board consisted of nothing more formidable than a prick in something like 98 per cent. of the cases. The principal medical officer of the Local Government Board quoted an explanatory minute from the pen of the late Sir JOHN SIMON and showed that in order to increase our power to prevent various diseases of men and of domestic animals a first aim is to obtain exact scientific knowledge of the causes and of the mode of attack of the diseases in question. In this sort of study more or less experiment may be necessary to determine the results which the administration of a particular reagent will produce upon an animal. Moreover, in aid of preventive medicine, and often in aid of therapeutics, experiments on animals are needed to test the value of alleged prophylactics and remedies as against known causes or processes of disease. Sometimes, as in the case of Asiatic cholera, such experiments are more immediately in the interest of man, sometimes, as in the cases of sheep-pox and cattle plague, they are more in the interest of domestic animals. Sir JOHN SIMON stated that while no doubt pain or uneasiness will afterwards arise in cases where disease is the result of experiment, yet the experiment would often require that the animal should be killed as soon as disease became manifest and, "of course, no animal would needlessly be let live in a state of suffering." The memorandum of its first medical officer is still adhered to by the Board. The Local Government Board sends to each experimental worker on each occasion of his engagement by the Board to do a piece of work a note drawing his attention to the fact that no experiments on living animals are to be conducted at the cost of the State without the employment of anæsthetics in the case of painful operations nor without a report from time to time explaining the object of such experiments and showing their necessity for the purpose of discovery. The men who perform these experiments are, of course, certificated workers under the supervision of the Home Office and at any time their procedure may be inspected. The questions directed to Mr. POWER brought out in answer an account of work done in connexion with the prevention or cure of diphtheria, cholera, plague, and typhoid fever in particular. They showed, further, that through her international obligations with regard to the entry of disease by ships England is bound to employ experimental investigation to insure prompt and certain detection of infectious diseases. In the same way inoculation experiments often become essential for the local investigation by medical inspectors of the Board of conditions under which disease exceptionally prevails, as, for instance, at the present time in the case of cerebro-spinal meningitis. The substantial benefits with regard to curative treatment of disease that may be obtained from experimental work are shown better perhaps in the case of diphtheria than of any other disorder. The facts of the case before and after the introduction of antitoxin are clearly stated by Mr. POWER and became the more convincing the more they were scrutinised by his interrogators. In the hospitals of the Metropolitan Asylums Board the case mortality has been reduced from a rate of 40 to one of 12 per cent., and Mr. POWER was able to uphold the validity of these figures and to show that no extraneous circumstance interferes with the favourable light which they throw upon the value of diphtheria antitoxin. The evidence of Dr. CUSHNY was directed to an explanation of the influence which experimental methods in pharmacology have exercised upon therapeutics, and similarly is of great public interest. The case of digitalis was one of the most striking which he cited in support of his view of the value of experiment. This drug was formerly supposed to have a slowing and weakening action upon the heart and was in use for such conditions as aneurysm. It was the experimental work of TRAUBE and LAUDER BRUNTON which demonstrated the real action of digitalis and saved many scores of patients from the baleful results of its use under false premisses. The introduction into practice of chloral, purely the result of LIEBREICH'S experimental work, was another instance quoted by Dr. CUSHNY to show the value to therapeutics of such investigations, and he dealt also with other important members of the soporific class of drugs and with the modern antipyretics.

The opinion of the medical profession generally upon the question of vivisection was represented by Sir RICHARD

Annotations.

"Ne quid nimis."

THE PUBLIC HOUSE TRUST MOVEMENT.

THE English public has not unnaturally come to regard the word "Trust" as a synonym for commercial immorality and many people may turn in horror from the bare mention of such a title as "The Public House Trust Association," but the man who does so must needs be in complete ignorance of the good that this Trust may bring to the nation if it is able to expand properly its efforts in a cause which every friend of true temperance must have at heart. The sixth annual report of the Central Public House Trust Association lies before us and we desire to place prominently before our readers the excellent motives of this movement and the no less excellent results that it has already produced. The object is to promote temperance by removing from the retail sale of alcoholic beverages all element of private profit and the means adopted are the acquisition of public-houses in which managers are employed and paid a fixed salary, to which is added a commission on the sale of food and non-alcoholic beverages only; a prominent feature is that all articles of food and drink are of the most wholesome quality obtainable and the houses are made clean, comfortable, and orderly; in fact, they are to be transformed from mere drinking-shops into inns in the best sense of the word; some of the bigger houses, of which more than 230 are already under trust management, offer decent lodging accommodation and recreation-rooms for workmen, besides providing them with wholesome food and drink, and they have been eminently successful in increasing the sobriety in certain neighbourhoods. The means by which these houses are to be acquired are the formation of "a Public House Trust Company in each county under the direction of local gentlemen of public spirit. The maximum dividend payable to the shareholders is 5 per cent.; surplus profits are devoted to the benefit of the public and, where possible, to the provision of counter-attractions to the public-house. The trust companies rent or purchase existing public-houses and also, wherever the magistrates decide that it is necessary to create new licences, will apply for them on public grounds." The association has made rapid progress in six years and has now 38 incorporated trust companies in the British Isles. A memorial has recently been presented to the Prime Minister, signed by a very representative body of supporters, which includes many bishops, lords lieutenants of counties, members of both Houses of Parliament, chairmen of licensing sessions and other magistrates, and mayors, appealing for the inclusion of the objects of the association in the Licensing Bill which is under the consideration of the Government. A statutory provision of trust companies would seem to be necessary for the full development of the scheme, for a perusal of this report shows that as private companies they have to make difficult headway against such strongly established interests as are vested in the "tied" system of public-house tenure which prevails almost exclusively in many counties.

THE DISPENSARY QUESTION AT COVENTRY.

TEN years ago the dispensary question at Coventry was an acute one, and we foretold in these columns that the relations of the Coventry Provident Dispensary with the medical staff of the institution would not be maintained long in view of better knowledge of the real meaning to the medical profession of the conditions of contract practice. In an article published in our issue of April 6th we mentioned that five out of seven of the medical men attached to the dispensary had sent in their resignations, that the resignations had been accepted, and that the medical men who were leaving the dispensary were starting a medical club to be managed on proper professional lines. The committee of the Provident Dispensary has issued a circular to the members of the dispensary in which it implies that under the new medical service, which certain of the seceding medical men propose to establish, the supply of drugs will be inferior to that of the dispensary. We quote the paragraph of the circular from the *Coventry Daily News*:—

> In the matter of drugs, it will be specially necessary for the members to deliberately consider to what extent they may be called upon to make sacrifices in withdrawing from the Dispensary. Under the rule as now established, the drugs are provided from a fund separate altogether from that from which the doctors receive their stipends, and, consequently, the drugs given, however expensive, make no difference to the amount received by the doctor prescribing them, but under the new system put forward to take the place of the Dispensary, every item saved will go into the pockets of the medical men constituting the new service. It will therefore be seen that if during any year a very large amount were saved upon drugs, which is quite possible, this would be a consideration which, under the circumstances, could not be overlooked. The members of the Dispensary may be absolutely certain that their committee will maintain their policy of seeing that whatever drugs are necessary will be provided without regard to expense. The institution has always enjoyed the highest reputation and the fullest confidence of the members for the excellence of the medicines supplied.

That it should be possible for the members of a managing committee to make such accusations against a group of professional men with whom they have recently been associated will be an additional reason to medical men for having nothing to do with the Coventry Provident Dispensary. The circular says also that "The committee have pleasure in informing the members that medical men with good qualifications have already placed their services at their disposal and they will at an early date notify the members of the arrangements made." We are making an inquiry on the spot and our commissioner's report of the position will appear shortly.

THE CITY AMBULANCE SERVICE.

BY kind permission of the Commissioner of Police for the City of London we have been enabled to inspect the first motor-ambulance provided by the City, which is at present accommodated within the precincts of St. Bartholomew's Hospital. Past experience has shown that when the City undertakes a public service it carries it out in the most efficient manner possible, and in this case it has adopted its usual wise course: the ambulance equipment which it has provided could hardly be made more perfect. It consists of a handsomely appointed vehicle, British built and fitted with an 8 h.p. electric power engine, the cells for driving it being charged from dynamos at the ambulance station. The wagon is fitted with two canvas stretchers, one above the other, which slide in and out on runners, the top one being supported on an ingeniously hinged bracket which permits of it being lowered to a convenient level for removal. On the other side of the car is a long locker seat for the attendant, which could, if necessary, accommodate a third patient. A lavish provision of first-aid requisites is made, including splints of all kinds, with spare paddings, dressings of gauze, lint, and wool, each done up separately in a hermetically sealed package, bandages of different materials, and some simple drugs and instruments; the aim has evidently been to supply anything that could be required by a medical man who might be summoned to a case, for the attendant constable, even though a holder of the St. John badge, as are all the City police, would hardly require to know the use of everything provided; in fact, no conceivable form of accident has been overlooked in the equipment. The car runs smoothly and is hung on comfortable springs; it has ground-glass windows and efficient ventilators, and its outside is enamelled white and blazoned with the City arms and the ambulance cross. In connection slightly above that of the preceding year, was nevertheless in defect of the average rate in the ten years 1896–1905. The rate of birth was the lowest on record; it was below the rate of the previous year by 2 per 10,000 living, and was below the decennial average rate by 17 per 10,000. The death-rate, although higher than that of 1905 by 2 per 10,000, was nevertheless below the average in the preceding ten years by 14 per 10,000 of the population. Infantile mortality, measured by the proportion of deaths under one year to registered births, was 133 per 1000, which is 5 per 1000 above the rate of the preceding year, but as compared with the average in the preceding decennium the rate of 1906 showed a decrease of 14 per 1000 births.

Mediterranean or Malta Fever.

DURING the last quarter of a century few if any of the departments of medicine have attained greater triumphs than that dealing with tropical diseases, for in this period we have witnessed discoveries in the etiology of these diseases in which men of science from nearly every country have had their share. We need only mention the famous researches of Professor KOCH on cholera and the valuable and life-saving facts resulting from the discoveries of LAVERAN, MANSON, and ROSS in malaria. Light has been thrown upon the causation of yellow fever by our professional brethren in America, while at last the pathology of sleeping sickness has been demonstrated by the Schools of Tropical Medicine of London and Liverpool. That curious disease, kala-azar, has been the subject of three separate Commissions appointed by the Government of India and its etiology seems to have been determined; and now the question of the causation of Mediterranean fever has been settled by the researches of a Commission appointed by the Royal Society.

Mediterranean or Malta fever has for a long time been a subject of discussion in medical science. The disease was first of all described by Dr. WOODWARD; his account was based on his experience whilst serving in the Federal army of the Potomac in 1861, and he considered it to be a hybrid affection—a combination of malaria and typhoid fever. Next BORELLI of Naples and AITKEN of Rome looked on it as a peculiar form of malarial fever, whilst DURAND-FARDEL of China and MOREL of French Guiana considered it to be only a severe form of malaria. In 1879 Surgeon-Major H. R. L. VEALE of the Army Medical Department named the disease "febris complicata" and held that it was a definite affection—one that is certainly not typhoid fever and as certainly not a malarial fever, or any modification of typhoid fever by malaria, or engrafting of the taint of malaria on typhoid fever, for the affection is one not yielding to quinine in the slightest degree: the access is insidious and its duration is extremely protracted (being of months rather than weeks and having been known to reach a period of two years); it is characterised now by deceptive convalescences and now by exacerbations, by profuse perspirations which give no relief, and by an extraordinary range of complications affecting all the systems of the body, especially the locomotor apparatus. The importance of this disease to England is evident from the fact that Malta is not only a winter resort and an important commercial centre but is also a naval station for a large fleet and a half-way house in which regiments are acclimatised before proceeding to India. It contains a permanent force of over 25,000 soldiers and sailors and may at any time become the seat of warlike operations, when every available man is of vital importance. All these troops must be exposed to this endemic fever and its lengthened duration causes an enormous yearly financial loss from non-effective pay and invaliding, whilst it may be said to be the most important and, next to venereal diseases, the most prevalent form of sickness affecting our Mediterranean forces. In other parts of the world the disease has been shown to exist and as affecting the British army we may note its appearance in India. The first step in the true elucidation of the disease was the discovery in 1887 of the specific micrococcus Melitensis by Colonel DAVID BRUCE, C.B., R.A.M.C., and now, 20 years later, the concluding report (No. VII.) has been issued of the Commission which was appointed under the auspices of the Royal Society and which began its investigations at the commencement of June, 1904. These investigations have been crowned with success, for at length the facts regarding the causation of the disease have been demonstrated and the Commissioners have determined the paths by which the specific micrococci find their way out of the bodies of infected men or of infected animals. Examination of the breath, saliva, sweat, and scrapings from the skin yielded negative results, the discharges from the bowel are still in the doubtful category, while it was shown that the main paths are by milk and by the urine, and of these the first is the most important. In Malta a very large percentage of the goats are infected and their milk contains the specific micro-organism. The chain of arguments presented in the report is conclusive as to the part played by the Maltese goats in propagating the disease and this is strikingly confirmed by what has happened in Gibraltar. While Gibraltar Rock obtained its milk from goats supplied from Malta it was as liable to the fever as that island, but of recent years Maltese goats have not been allowed to enter Gibraltar and the fever is now non-existent in that station.

The Commission concludes its report with a series of valuable suggestions, and these, of course, will be put in force as regards our own garrison, but there is no such certainty with regard to the action of the native Maltese. It is to be feared that nothing will be done to purify their herds of this disease unless the utmost publicity is given to the fact that the ingestion of infected goat's milk, if not the only cause, is at any rate the main cause of the infection. We trust, therefore, that the native inhabitants of Malta will see the wisdom of setting their house in order in accordance with the facts led up to by the unremitting work of many competent observers and now established by the valuable researches of the Commission sent out under the auspices of the Royal Society.

WEST LONDON POST-GRADUATE COLLEGE.—The annual dinner of the Post-Graduate College and of the past and present members of the West London Hospital will be held at the Trocadéro Restaurant, Piccadilly-circus, on Wednesday, June 12th, at 7.30 P.M., Mr. *Lloyd Williams* in the chair. Any gentlemen who have worked at the Post-graduate College of the hospital will be welcome and tickets (7*s.* each) can be obtained on application to the honorary secretary of the dinner, Mr. L. A. Bidwell, 15, Upper Wimpole-street, W.

the group for the years 1860-92 the sequence of percentages for the fathers of the six classes of sons was 36·2, 32·2, 29·4, 24·7, 13·8, and 12·8. Similarly in the group for the years 1830-60, it was found that of the fathers of the first-class honour men 41·0 per cent. obtained either first- or second-class honours themselves, while of the fathers of the second-class honour men only 40·7 per cent. obtained either first- or second-class honours themselves; in this group the complete sequence of percentages for the fathers of the six classes of sons was 41·0, 40·7, 33·3, 28·1, 20·1, and 12·9. The Oxford records also enable the average resemblance between brother and brother, as well as between father and son, to be estimated numerically. The mean value obtained for the fraction expressing the degree of resemblance between father and son is 0·312, and that between brother and brother is 0·405. Before proceeding to discuss the results deduced from the data supplied by Harrow and Charterhouse schools—a discussion which considerations of space prevent us from touching upon—Mr. Schuster and Miss Elderton express the opinion that their investigations support the view that the physical and psychical characters in man are inherited with nearly the same intensity.

THE COST OF FLAVOUR.

PHYSIOLOGICAL chemists occasionally delight to tell us that we are the dupes of æsthetic senses and pleasing flavours. Men will pay, they say, half a guinea for a pint of turtle soup which, from a strictly nutritive point of view, is not worth a twentieth part of that sum. Oysters, we are told, are an extravagant form of food, since 14 of them do not contain as much nourishment as a single egg, while it would require the ingestion of no less than 200 good oysters before the protein equivalent of a pound of beef was reached. Caviare, again, is not to be compared with the bloater as regards its nutritive value; indeed, the latter "offers the largest amount of nutriment for a given sum of any animal food." It is evident if we regard these conclusions seriously that a large section of the human race is wickedly indulgent, caring more for the palatable than the nutritious quality of food. The same appears to be true in regard to beverages, and even in the case of cigars there is no difference, chemically speaking, between the penny Pickwick and the shilling Havana. The difference of 11*d.* is paid for flavour, and flavour alone. Physiologically, it is possible that a "brandy-and-soda" costing say 1*s.* is just as satisfactory as a "pint" of champagne at 5*s.* Similarly it may be said that a pint of beer at 6*d.* is quite as good, dietetically speaking, as a small bottle of Château Margeaux at 3*s.* 6*d.* There are, however, clearly instances in which in no sense can the nutritive equivalent of food and beverages be summed up in so many pounds, shillings, and pence. How often is it found, for example, that the invalid may be tempted to take a few oysters in preference to a small beef fillet, or some turtle soup when calves' head, the basis of mock turtle, would scarcely appeal to him, even although it may be more than equal in nutritive value to the only reptile used to any extent as food in this country. When a person refuses to take a given food, however nutritive and wholesome it may be, because it is not tempting to the sight or the palate, it is in many instances probable that if he struggles to overcome his fastidiousness such food may prove to tax his digestive functions and may even cause gastric trouble. The chemical analysis of food and physiological experiments in the test tube do not take into account this psychical factor of digestion, for the digestive process is well begun when the sight of food is pleasing. On the contrary, when food does not appeal to the eye it is likely not to appeal to the stomach. It is hardly reasonable to conclude, therefore, that the price of flavour is always the price of luxury. It is wrong, of course, to give way constantly to the promptings of the fanciful palate, and there is little doubt that when this outrage on a healthy function is permitted it is akin to the evil which follows the frequent imbibition of alcoholic drinks. In both cases over-stimulation wears out the normal impulses. The man who enjoys plain food is miles ahead, physically and physiologically speaking, of the man who would leave his meal untouched if it were not that every item of it was calculated "to tickle the palate."

THE INTERNATIONAL CONGRESS OF LARYNGOLOGY AND RHINOLOGY.

THE committee of this Congress, which is to be held in Vienna from April 21st to 25th, 1908, in honour of Türck and Czermak, has decided to organise an exhibition connected with laryngology, rhinology, œsophagoscopy, and bronchoscopy. Among other objects to be shown will be instruments for examination, treatment, and operation, apparatus for inhalation, electro-medical apparatus for lighting and other technical objects, "prostheses," manuscripts, books, preparations, drawings, and the like. The committee invites all those interested to take part in this undertaking. All communications should be sent to the secretary of the Congress not later than Dec. 31st, 1907, Dr. M. Grossmann, Garnisongasse, 10, Vienna, IX. An exact description of the objects to be shown should be sent for the purpose of drawing up a catalogue. All exhibits should be forwarded by, at the latest, Feb. 15th, 1908, to Herr Ober-Ingenieur Jaroschka, Inspektor des k.k. Universitätsgebäudes, Vienna, in whose charge they will be. The executive committee guarantees that all objects sent shall be insured against fire, burglary, and damage, while the Customs authorities have agreed to allow free ingress and egress to exhibits. Any other information in connexion with the exhibition may be obtained from the secretary.

THE MEDICAL DEFENCE UNION.

WE need no excuse for again calling attention to the excellent work of the Medical Defence Union, which attained its majority last year. The report for 1906 which has been recently issued is one that is well worthy of the attention of the profession. There is little doubt that a still further increase in membership would result from a wider appreciation of the benefits accruing therefrom and the serious risks attendant on medical practice without such a safeguard. The council especially desires to bring these facts to the notice of recently qualified men and in this we strongly second it. There is an unfortunate tendency for men holding medical appointments to think that it will be time enough to consider the question of medical defence when they go into practice and that the broad shoulders of their hospital will bear the brunt of any charges that may be brought against them personally. That this is a great mistake is proved by a case quoted in the very interesting report of the Union's solicitor, Mr. W. E. Hempson; a visiting surgeon and house surgeon of a hospital were made co-defendants in a mischievous action for damages brought by a woman who alleged that she had suffered injury through their negligence, whereas it was really entirely through her own negligence of their instructions that she had suffered. Although "the judge made some very strong comments upon the nature of the action, and a verdict was given in favour of both defendants with costs," yet the woman, who was married, had sued in her own name alone, thus rendering her husband secure from claim, and not one penny of the £170 spent in defence was recovered. Many other cases are recorded of equal audacity; in one that seems almost incredible to the non-legal mind a vindictive litigant brought five consecutive actions in as many county courts against a consultant for damages for with the station are 52 "call posts" at different parts of the City, whence any constable can summon the ambulance as soon as an accident occurs; the call goes through to the Old Jewry head police office and is telephoned on to the ambulance. A constable with "first-aid" training accompanies the chauffeur and returns inside the car with the patient. The first accident attended on May 13th was in Queen Victoria-street and the car reached it, returned to St. Bartholomew's Hospital, and was in its garage again within 20 minutes. The service was inaugurated on that day by Sir Alfred Newton, the chairman of the City police committee, in the presence of a representative gathering of City officials and others interested in ambulance work. If this motor ambulance prove a success, as from the efficiency of its instalment there is every reason to hope, it is proposed shortly to add two more cars. The London public should greet with great satisfaction so excellent an attempt to meet a long-felt need.

DEATH OF DR. ROBERT BARNES.

WE much regret to announce the death of Dr. Robert Barnes, which occurred at his residence, Bernersmede, Eastbourne, on Sunday last, May 12th. As Dr. Barnes was only a few months short of 90 years of age his death can hardly be regarded as unexpected, although when it occurred it was sudden. The medical world has lost in him one of the most able and advanced exponents of the science and art of midwifery, and we personally have lost an old and valued friend. For many years Dr. Barnes was a member of our staff and those who have read his published works will not require to be told that his contributions to our columns were alike scholarly, clear, and vigorous. We shall publish an extended memoir in an early issue of THE LANCET.

WOMEN'S NATIONAL HEALTH ASSOCIATION OF IRELAND.

THE rapidly growing interest in the health of the nation has taken form in Ireland under the auspices of Her Excellency the Countess of Aberdeen, wife of the Viceroy, who has already done an incalculable service to the country by establishing the Irish Industries Association, of which she is President. The cause of fostering national industries cannot be more profitably served than by fostering a healthy race of people, and the objects of this new association are well calculated to secure that end. They are officially stated in these words:—

> 1. To arouse public opinion and especially that of the women in Ireland to a sense of responsibility regarding the public health. 2. To spread the knowledge of what may be done in every home, and by every householder, to guard against disease, and to eradicate it when it appears. 3. To promote the up-bringing of a healthy and vigorous race.

The problems proposed for consideration are those which so frequently find a place in our columns, such as tuberculosis, milk-supply, infant mortality, school hygiene, and inspection. Any woman resident in Ireland is invited to become a member and there is no compulsory subscription, although voluntary contributions are very naturally solicited. The methods of work suggested include: popular lectures by medical men and others and conferences on health subjects; simple health talks with small circles of working mothers; the appointment of women health officers, health visitors, and sanitary inspectors; the bringing before local and other authorities any sanitary requirements of the district and the promotion of public opinion in favour of the carrying out of such improvements; the compiling and general distribution of simple health leaflets and other health literature; the teaching of hygiene and of domestic science in every school; the appointment of district nurses in districts where such are not already working and the periodical inspection of school children by district nurses; and the creation of local dispensaries for special purposes where needed. At the inaugural meeting on March 13th a provisional committee was appointed of which the Countess of Aberdeen is President and honorary treasurer, and Mrs. Rushton, 58A, Rathmines-road, Dublin, has been appointed organising secretary. A memorandum has been published giving suggestions for forming local branches of the association and indicating means whereby the aims of the society can be advanced. We trust that the association will meet with success.

THE INHERITANCE OF INTELLECTUAL ABILITY.

ATTEMPTS have at various times been made to analyse the intricate conditions of heredity in mental qualities so as to express the results in some form suitable for tabulation. Mr. H. Havelock Ellis in 1904 published "A Study of British Genius," the data for which he culled from the volumes of the "Dictionary of National Biography." A more convenient source of statistical material has been utilised in a recent memoir[1] by Mr. Edgar Schuster, first Francis Galton Research Fellow in National Eugenics in the University of London, and Miss Ethel M. Elderton, Francis Galton Scholar in National Eugenics in the University of London. In this memoir the writers base their conclusions on the Oxford class lists (examinations for the B.A. degree) and the school lists of Harrow and Charterhouse. The Oxford material was derived from the later volumes of Foster's "Alumni Oxonienses" and its continuation "Oxford Men and their Colleges," and from the "Oxford Historical Register." The object of the research was to "measure the average resemblance between father and son" and may be briefly outlined as follows. It is known in a general sort of way that the sons of those fathers who are more intelligent than the average of fathers are themselves, on the whole, more intelligent than the average of sons. If, therefore, a group of fathers be considered, the intelligence of each of whom is the same definite amount A above the average intelligence of all fathers, the sons of this group will form a group whose average intelligence is a certain definite amount B above the intelligence of all the sons of all the fathers. If the ratio of B to A is unity, B is equal to A, which means that the sons of any particular group of fathers of given intelligence differ in intelligence from the average of all the sons by exactly the same amount as the intelligence of their fathers differed from the average intelligence of all the fathers. When the ratio of B to A is unity the resemblance between father and son is complete and perfect, and every intermediate value between 1 and 0 expresses a different degree of resemblance. The first step in the process of tabulation was to divide the men into three groups according to the years in which they took, or should have taken, their degrees, the limits of the three groups being as follows: 1800–30, 1830–60, and 1860–92. Taking the group 1860–92, and dealing only with those men whose fathers were educated at Oxford, it was found that the group consisted of 2459 persons who were arranged in six divisions, according as they had been placed in the first, second, third, or fourth class in the University lists, or had taken merely a pass degree, or had not taken a degree. Each of these six classes was sorted again according to the degree taken by the father. In this way it was found that of the fathers of the first-class honour men 36·2 per cent. obtained either first- or second-class honours themselves, while of the fathers of the second-class honour men only 32·2 per cent. obtained first- or second-class honours themselves, and of the fathers of the third-class honour men only 29·4 per cent. obtained first- or second-class honours themselves. In common form to print English carelessly and to make a mess of English designations. Many a Frenchman, for instance, writes "Sir Jones" with his eyes open, knowing that he is incorrect, but conniving, as it were, at popular error. But after discounting this tendency we are faced by the unpleasant suspicion that English science and the English language are still regarded as barbarous and negligible by the average Frenchman of scientific culture.

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[1] The Inheritance of Ability, published by Dulau and Co., 37, Soho-square, London, W., pp. 42, price 4s.

EPIDEMIC CEREBRO-SPINAL FEVER.

CASES of epidemic cerebro-spinal fever continue to be reported from many parts of the country. The first occurrence of the disease in the city of Nottingham was announced a few days ago. The patient, who is a boy aged eight years, is said not to have been out of Nottingham for some time and the origin of the infection is unknown. Other cases have presented themselves at Manchester, at Wrexham, and at Pilsley in Derbyshire. In Scotland during the week ended May 11th there were 16 deaths from this cause registered in Glasgow, six in Edinburgh, four in Leith, two in Paisley, and one in Dundee. In Glasgow the weekly report issued on May 10th showed that there were at that time 127 cases under treatment. Cases have also occurred at Perth, at Elgin, at Paisley, at Port Glasgow, and at various villages and small towns in the counties of Dumbarton, Fife, Forfar, and Stirling. In Belfast there has now been a total of 393 cases with 279 deaths.

THE PASTEUR INSTITUTE OF INDIA.

WE have received the sixth annual report of the Director of the Pasteur Institute at Kasauli dealing with its work between August, 1905, and August, 1906. Its scope has increased wonderfully and during this period 1145 persons have been treated and 117 other cases investigated but not treated, as satisfactory evidence was forthcoming to show that the animals which had bitten them were not rabid. The director insists on the importance of securing the biting animal alive in every possible case and of observing it for ten days, which period covers the time during which it may be virulent; if no sign of rabies appears within this limit the person bitten is in no danger and needs no treatment; the examination of the brains of dead animals has only a very limited negative value. The systematic slanderers of experiments on animals, whose predecessors attempted to cast such obloquy on Pasteur during the last century, may be well answered by a single extract from this report. "The increase in the number of patients is undoubtedly due to the wider diffusion of knowledge of the treatment and to appreciation of its results." These results are sufficiently striking; statistics are very variable as to the mortality attendant on bites by rabid animals, but 15 per cent. is almost certainly a low estimate amongst untreated patients. At the Institute of India during the last five years amongst patients there treated who had been bitten by animals definitely proved to have been rabid (either experimentally or by the development of the malady in other animals bitten by them) the mortality was *nil* for 415 Europeans and 0·97 per cent. for 409 Indians. Amongst those bitten by animals certified by a veterinary surgeon or medical officer to have been rabid there were 245 Europeans, of whom none died, and 213 natives, of whom 0·93 per cent. died; and of those bitten by animals only suspected of rabies 0·13 per cent. of 721 Europeans and 1·3 per cent. of 1733 Indians died. This can only be called a triumph of applied experimental science, the more especially as many of the patients treated were bitten by wolves and jackals, animals in which the virulence of the disease is frequently exalted. The compilers of the excellent report from which these figures are quoted insist strongly, however, on the urgent necessity of corporate preventive measures to control the scourge in India, and appeal to private persons to exercise more restraints on animals that have been bitten. It is obvious that much might be done in this way, even though a muzzling order could scarcely be applied to any purpose in a land full of wild animals. The report points out that this institute will this year become the Pasteur Institute of Upper India only as a similar institute is to be established at Conoor. Further extension is needed at Kasauli, however, and an appeal is made to wealthy Indians to provide increased accommodation, especially for the lodging of native patients.

THE TREATMENT OF GONORRHŒA.

THE *Scottish Medical and Surgical Journal* for May contains a useful paper on the treatment of gonorrhœa by irrigation from the pen of Dr. J. S. Purdy who has made some interesting experiments in order to demonstrate that ordinary urethral injections do not penetrate beyond the membranous urethra. With a four-drachm glass syringe he injected into the urethra of a cadaver a solution of methylene blue. He found that staining occurred as far as the termination of the membranous portion but no further. On using the douche tin an elevation of 2½ feet was sufficient to stain the prostatic urethra and of 3 feet for intravesical irrigation. On the living subject an elevation of not less than 5½ feet was necessary to reach the bladder without a catheter. For intravesical irrigation it is better to use a catheter. Although the resistance may be overcome by using a column of water sufficiently high, it is not always advisable to do so, especially in nervous patients. Dr. Purdy has previously published his experience in the treatment of gonorrhœa with the new organic compound of silver, protargol, at the London Lock Hospital.[1] This body has the advantage of being non-irritating even in strong solutions. After first washing out the urethra he injects four times daily a 5 per cent. solution, which the patient holds in the urethra for at least five minutes. In from four to 10 days all obvious discharge ceases. On the cessation of the discharge he uses a weak astringent injection, a solution of sulphate of zinc, one grain to the ounce, which is held in the urethra for half a minute. In some cases cure is completed within 14 days. In posterior urethritis Dr. Purdy has obtained good results from deep instillations of silver nitrate and in some obstinate cases finds this method necessary but he considers that no method gives such uniformly satisfactory results as urethral and intravesical irrigation. He uses a double-channel nozzle made of celluloid or metal, consisting of two tubes concentrically arranged so as to allow the fluid to flow through the inner and to return by the outer. An ordinary burette clip serves to control the stream. Dr. Purdy's experience of the urethroscope is not fortunate. In some cases the disease was even aggravated by its use. Much practice and skilful manipulation are required in order to use this instrument with benefit.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE British Association has now reached the age of 77 years and its comprehensive objects must be well known to our readers; in the words of its constitution they are: "To give a stronger impulse and a more systematic direction to scientific inquiry; to promote the intercourse of those who cultivate science in different parts of the British Empire with one another and with foreign philosophers; to obtain more general attention for alleged injury; in every one of them the verdict was given against the plaintiff with costs, but, as usual, he was a man of straw and none were recovered. The possibility of such exploitation of the law courts for the persecution of medical men is a serious defect of our legislative machinery and one which would press well-nigh intolerably on the profession if it were not for such beneficent aid as is afforded by the Medical Defence Union and similar useful bodies; in one case last year which passed through three trials and two appeals the costs against the Union amounted to nearly £800, five other cases averaged over £100 each, and of the entire 193 cases which passed through the solicitor's hands 20 accounted for £1729 of the total law expenses of the year; it is obvious that few practitioners could bear such burdens unassisted. It is a noteworthy fact that speaks volumes for the increasing respect entertained for the Medical Defence Union as an opponent, that whereas ten years ago its solicitor had to deal with cases representing 6 per cent. of its membership, during last year with a doubled membership he had to treat little more than 3 per cent.; this means that the decisive preliminary action of the general secretary, Dr. A. G. Bateman, was quite sufficient to nip a large number of threatened actions in the bud. The wide field of utility of Dr. Bateman's work in settling internal as well as external professional dissensions and advising on many legal matters is well exemplified in the report by a schedule of cases selected from the minute-book. It is satisfactory to read that the financial condition of the Union is sound and that the membership of 7042 shows an increase of 667 on the previous year. The council expresses a hope that each member may bring in a new one during this year and we are pleased to take this opportunity of giving further publicity to so excellent an aspiration.

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[1] THE LANCET, Dec. 12th, 1903, p. 1715.

PELVIC ABSCESSES OF APPENDICAL ORIGIN.

Mr. Gilbert Barling recently gave a clinical lecture at the General Hospital, Birmingham, on a somewhat unusual form of pelvic abscess derived from an appendicitis. The lecture appears in the present issue of THE LANCET and to it we refer our readers for a full account of the case. The essential points are these. A man, aged 42 years, had for ten years suffered from recurring attacks of abdominal pain, with vomiting and constipation. A year before admission he had cystitis, which had continued, though less severe, to the date when he was first seen. Nothing was to be felt in the right iliac fossa, but per rectum on the left side of the pelvis was a large dense mass with some fulness on the right side. The cystoscope showed only a diffuse inflammation of the mucous membrane of the bladder; there was no ulceration. When the abdomen was opened in the middle line immediately above the pubes, on the right side was found the appendix surrounded by a few drachms of pus; but on the left side of the pelvis was a large abscess containing several ounces of very fœtid pus. This abscess was completely distinct from that surrounding the appendix. There was no communication between either abscess and the interior of the bladder, so that the cystitis was due to an extension of inflammation from the abscess through the bladder wall and not to any direct communication between them. The chief interest in this case is connected with the abscess on the left side of the pelvis. It is as a rule easy to find an abscess surrounding an inflamed appendix, but unless the surgeon is on the look out for it pelvic abscess due to the appendicitis, but not anatomically connected with it, is very likely to escape notice. The condition is important and hitherto it has not received the recognition which it deserves. Bérard and Patel were apparently the first to distinguish as para-appendicular those abscesses in the pelvis which are unconnected anatomically with the inflamed appendix, though resulting from the appendicular inflammation. In many cases of pelvic abscess there are special symptoms which are referable to the abscess; these are mainly vesical and rectal. Frequent or painful micturition may be present or even retention of urine. The rectal disturbance may manifest itself as tenesmus or diarrhœa may occur. If any other symptoms of appendicitis are present these symptoms should always suggest the presence of a pelvic abscess. If no signs of appendicitis are obvious there is great likelihood of the vesical irritation being looked upon as due to cystitis or a stone may be thought to be present. In Mr. Barling's case the history suggested appendicitis but the symptoms at the time of admission were almost limited to those of cystitis. A rectal examination, however, disclosed the presence of the pelvic abscesses.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN IN DUNFERMLINE.

THE first annual report by Dr. R. V. C. Ash on the Medical Inspection of School Children in Dunfermline under the local Carnegie Trust is before us and is an admirable example of what such a report should be, the information being carefully tabulated and illustrated by lucid charts. It is based on the examination of 2000 school children of all ages, of whom the great majority were boys, and is the result of a scheme which aims at the medical examination of all children in Dunfermline on entering school, on passing into the senior department and on leaving; the last examination is strongly advocated as a help in deciding the child's future career. Where defects are found the requisite treatment is adopted, and especial care has been devoted to defective eyes and teeth, and the presence of adenoids. Curves showing average height, weight, and chest measurements compared with those of the Anthropometric Committee's standard are included. No children were examined without the previous consent of their parents being obtained, and it is interesting that although there was considerable opposition from this source at the inception of the scheme, such trouble is rarely encountered now that there is a more general appreciation of its objects. The parents are informed of any defect that is found and a similar intimation is given to the medical attendant under whose care the case will fall.

FRENCH MEDICAL MEN AND THE ENGLISH LANGUAGE.

THE evidence of bibliography as to the state of national culture is extremely instructive. In the Montpellier theses, of which some 420 were published between the years 1900–04, it has been customary to insert a literature of all the authorities consulted by the individual writers, and this is printed at the end of the thesis and immediately in front of the quaint Hippocratic "*serment*" sworn to at Montpellier by every candidate on attaining the doctorial degree. From these literatures or bibliographies, some of which are voluminous, it may be inferred that young French medical men read little outside the limits of their own language. The great majority of authorities quoted are French, as we should expect in a country where the average man is as proud of his mother tongue as an ancient Roman was of his. It is curious, however, to note that while lengthy German articles, couched in all the complex obscurity of the most original of languages, are often correctly cited, English but seldom makes its appearance in the bibliographies constantly printed in Montpellier. When it does it has mostly undergone torture. Well-known English surnames are rarely rightly printed. A Dr. Macleod appears as "Mocleod," Sir Frederick Treves figures as "Trêves," and so forth. As to the transcripts of titles of books and articles they often baffle us entirely. Of course, some allowance must be made for the fact that in France, even in these days of the *entente*, it is through handling ponies harbouring the specific micrococcus. In none of the cases examined could any evidence be gathered of the spread of the fever by means of mosquitoes or other biting insect, although it is stated that flies may act as carriers. The investigation of the garrison resulted in the following indications: (*a*) that the goat is the primary source from which the disease is spread; (*b*) that goat's milk is the common vehicle for the micrococcus Melitensis; (*c*) that flies may act as carriers; and (*d*) that the other paths of infection play but a minor part. Contact and dust are possible, but probably very infrequent, factors, while the case for mosquitoes and other biting insects is not proved.

The last section of this volume deals with the fever in the civil population. Tables are given showing that it occurs all through the year, with an increase during the hot-weather months. With regard to sex, males and females appear to be about equally liable. The case mortality in the civil population for the ten years from 1896 to 1905 worked out at about 9·5 per cent. as compared with 3·3 for the garrison. Here, again, goats' milk is incriminated as the factor in the causation of the fever, a point well brought out by Dr. A. Critien, of the Public Health Department, Malta.

The volume concludes with a general summary of the facts by Major McCulloch and Major Weir and Staff Surgeon Clayton, and with a series of recommendations, the most important of which have reference to the goats. As a result reacting goats will be segregated and where found to be persistently infected will be killed, compensation being paid to the owners. Condensed milk has been substituted for goats' milk in both naval and military hospitals; the entry of goats into barracks has been prohibited, whilst soldiers, single and married, have been warned as to the dangers of using goats' milk or articles made from it outside their barrack quarters.

The Commission is to be congratulated on the far-reaching results that should be obtained from its labours: the report is one of the most valuable that we have ever perused. For, taking all the facts and arguments into consideration as set forth in the report, it would appear that the Commission has been successful in discovering the main source of infection of Mediterranean fever. This source is the Maltese goats, some 20,000 in number, half of which have been found to be affected by Mediterranean fever, and one-tenth of which are constantly passing the parasite of this disease in their milk. If this source of infection is removed, in all probability the fever will completely disappear from Malta.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN Extraordinary Comitia of the Royal College of Physicians of London was held on May 9th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that he had conveyed the congratulations of the College on the occasion of the eightieth anniversary of his birthday to Lord Lister who had returned his warm and sincere thanks for the honour done to him.

The following gentlemen elected to the Fellowship of the College at the last meeting were admitted:—James Barry Ball, M.D. Lond., Arthur Thomas Wilkinson, M.D. Lond., Edward Mansfield Brockbank, M.D. Vict., William James Fenton, M.D. Cantab., Edwin Bramwell, M.B. Edin., Andrew Duncan, M.D. Lond., Robert Jones, M.D. Lond., and Herbert Stanley French, M.D. Oxon.

A communication was received from the Executive Committee of the International Memorial to Semmelweiss, thanking the College for its assistance and sending a medallion struck in commemoration. It was directed that a reply should be sent congratulating the International Committee on the completion of its labours and thanking it for the medallion.

The PRESIDENT announced that he had nominated Dr. M. C. Grabham of Madeira to represent the College at the centenary commemoration of the foundation of the Geological Society of London.

The resignation of Dr. H. Charlton Bastian of the office of curator of the museum was accepted and the thanks of the College were accorded to him for having held the office so long. The PRESIDENT nominated Dr. William Hunter to the post.

A petition was received from the London School of Medicine for Women praying for the admission of women to the examinations of the College. On the motion of the SENIOR CENSOR, seconded by Sir THOMAS BARLOW, it was directed that printed copies of the petition should be circulated among the Fellows before any subsequent meeting of the College at which the matter should be further considered.

After some formal business the PRESIDENT dissolved the Comitia.

NATIONAL ASSOCIATION FOR THE ESTABLISHMENT AND MAINTENANCE OF SANATORIA FOR WORKERS SUFFERING FROM TUBERCULOSIS: THE BENENDEN SANATORIUM.

DINNER IN AID OF THE FUNDS.

His Royal Highness the PRINCE OF WALES presided at a dinner in aid of the funds of the National Association for the Establishment and Maintenance of Sanatoria for Workers Suffering from Tuberculosis held at the Hotel Cecil on Tuesday, May 14th, as a result of which the treasurer, Mr. A. WILLIAM WEST, was enabled to announce a subscription list of £13,261.

The toast of "The King" having been given by His Royal Highness the PRINCE OF WALES, the health of "The Queen, the Prince and Princess of Wales, and the other Members of the Royal Family," was proposed by his Excellency the American Ambassador, and responded to by H.R.H. the PRINCE OF WALES, after which His Royal Highness proposed the toast of the evening, "Success to the National Association for the Establishment and Maintenance of Sanatoria for Workers Suffering from Tuberculosis." He recapitulated the history of the movement and its growth under the patronage of H.R.H. Princess Christian of Schleswig-Holstein. As a result a sanatorium of 200 beds was to be started, in the hope that if it was a financial as well as an educational success it would serve as an inducement to found branches and to encourage the friendly societies to obtain legal powers to draw on their funds to enable them to build similar institutions. As a result of an appeal to public generosity the sanatorium at Benenden, of which the foundation stone was laid on July 14th, 1906, had been built and opened for the reception of patients on March 4th, 1907. His Royal Highness referred to the educational value of such institutions and to the fact that they would relieve existing charities. He pointed out that there were at present less than 1000 beds for the open-air treatment of the working classes in this country and that the yearly victims in London alone were upwards of 16,000 persons, and, further, that it was estimated that in London alone £4,000,000 were annually lost in wages to the working classes by consumption.

Mr. C. H. GARLAND, the chairman of the council, in responding to the toast, referred to the value of the support and patronage of the Royal Family and outlined the scope and objects of the scheme. The association had been able to prove that it is cheaper for the friendly societies to treat and to cure their consumptives than to pay out their sick pay and the final funeral expenses. Their object was to erect an institution which would be no further charge on the charitable public but which would be assured of permanent maintenance from the friendly societies.

Mr. W. G. BUNN also responded and referred to the objects of the association.

DESCRIPTION OF THE SANATORIUM.

The National Sanatorium, Benenden, was formally opened by Princess Christian on April 30th.

The site selected for the sanatorium is on rising ground seven miles from Headcorn and six miles from Cranbrook stations near Benenden, Kent. There is a light railway running to within three and a half miles of the institution. The soil is Lower Greensand, perhaps not absolutely the most ideal soil if money were of no account in the matter, but it was considered that a cheap site was a great essential to the success of the scheme. The situation chosen had also the advantage that two farms adjacent to the site could be the objects of science and the removal of any disadvantages of a public kind which impede its progress." Of the success with which these objects have been attained in the past there is no need now to speak; but we take the present opportunity of calling attention to the forthcoming annual meeting of the Association which will commence at Leicester on Wednesday, July 31st, under the presidency of Sir David Gill, K.C.B., F.R.S., formerly His Majesty's astronomer at the Cape of Good Hope. The sectional meetings for the reading and discussion of reports and papers will be held under the presidency of the following gentlemen respectively: (*a*) Mathematical and Physical Science, Professor A. E. H. Love, F.R.S.; (*b*) Chemistry, Professor A Smithells, F.R.S.; (*c*) Geology, Professor J. W. Gregory, F.R.S.; (*d*) Zoology, Mr. W. E. Hoyle; (*e*) Geography, Mr. George G. Chisholm, F.R.G.S.; (*f*) Economic Science and Statistics, Professor W. J. Ashley; (*g*) Engineering, Professor Silvanus P. Thompson, F.R.S.; (*h*) Anthropology, Mr. D. G. Hogarth; (*i*) Physiology, Professor A. D. Waller, F.R.S.; (*k*) Botany, Professor J. B. Farmer, F.R.S.; and (*l*) Educational Science, Sir Philip Magnus, M.P. The programme of evening meetings includes a reception to be given by the Mayor of Leicester on August 1st in the Abbey Park and a soirée in the museum buildings on the 6th. Excursions to the many "places of interest in the district" will be arranged for Saturday, August 3rd, and the central position of this year's meeting-place is well shown by the fact that such distant spots as Haddon, Warwick, and Peterborough are included under this heading in the prospectus of the association. Tickets for the meeting may be obtained from June 1st to July 23rd at the office of the Association in Burlington House, London, W., and after July 24th at the Reception Rooms at Leicester. Their price to annual members and associates for the meeting is £1; the former receive the reports of the meeting free, and the latter at two-thirds of the published price. Ladies are admitted on equal terms.

A DISCUSSION will take place on Infantile Mortality on Friday, May 31st, in the Western Law Courts, Guildhall, Plymouth, at 7.30 P.M. The chair will be taken by Colonel J. Lane Notter, R.A.M.C., chairman of the council of the Royal Sanitary Institute, by whom the debate has been arranged. The discussion will be opened by Major R. J. Blackham, R.A.M.C., and a general conference is invited. On Saturday, June 1st, visits will be made to the Royal Dockyard and the Plymouth Coöperative Society's bakery.

THE Department of Public Health of Queensland in a bulletin dated April 6th states that for the week ending on that day no cases of plague had occurred. The date of the last case notified was March 17th. As regards Hong-Kong a telegram from the Acting-Governor (received at the Colonial Office on May 13th) states that for the week ending May 11th there were 15 cases of plague and 10 deaths from the disease.

Principal Donald MacAlister, M.D. Cantab., LL.D., D.C.L., will preside at a dinner of the Glasgow University Club, London, to be given in the Trocadéro Restaurant, Piccadilly, W., on Friday, May 31st, at 7.15 for 7.30 P.M. Application for tickets should be made to the honorary secretary, 63, Harley-street, W. It is anticipated that the Right Hon. Lord Kelvin, O.M., K.C.V.O., president of the club, will be present.

THE next session of the General Medical Council will begin on Tuesday, May 28th, at 2 o'clock P.M.; the President, Dr. Donald MacAlister, will occupy the chair.

MEDITERRANEAN OR MALTA FEVER.[1]

THE final reports of the Commission appointed by the Admiralty, War Office, and Civil Government of Malta for the Investigation of Mediterranean Fever are now published and it is sincerely to be hoped that the authorities concerned will read, mark, learn, and inwardly digest them.

In Part VI. we find the record of an immense amount of work by Dr. J. W. H. Eyre, Major J. G. McNaught, R.A.M.C., Captain J. C. Kennedy, R.A.M.C., and Dr. T. Zammit, professor of chemistry, University of Malta. The report opens with a brief summary of the technique employed for the isolation and identification of the micrococcus Melitensis. Then the question of the goat as a factor in the dissemination of the fever is proceeded with and the facts ascertained are noted under the following heads:—1. The Distribution of Milch Goats Naturally Infected with Micrococcus Melitensis. Here the results showed conclusively the necessity for repeated examinations at short intervals of every herd if the detection of *all* the infected animals is aimed at. 2. The Agglutination Test as Applied to the Milch Goat. 3. The Numerical Relationship of Micrococcus Melitensis to the Milk of Infected Goats. 4. The Presence of Micrococcus Melitensis in Milk Products. It could be isolated from cheese and from ice-creams where no heating had been employed in their preparation in order to insure the thorough incorporation of the ingredients; where heating had been used the living organism could not be recovered, although it was known to be present in abundance in the infected milk. 5. The Susceptibility of the Goat to, and Paths of Infection by, Micrococcus Melitensis. Contact infection, subcutaneous infection, and cutaneous infection were all considered and were found capable of communicating the disease, whereas transmission by blood-sucking flies other than by mechanical conveyance upon body or limbs was seen to be extremely improbable.

In the infected goat the micrococcus was next found to be localised in the blood, the spleen, the lymphatic glands, the kidneys, and the mammary gland. A very interesting point was discovered—namely, that while an appreciable amount of specific agglutination is usually transferred from the infected milch goat to the offspring, yet that the micrococcus Melitensis, minute though it be, does not appear to cross the placenta. Experiments are detailed as the result of the administration by the mouth of infected goat's milk to monkeys and it was found that this was followed by an attack of micrococcus Melitensis septicæmia in 83 per cent.

There are many other valuable observations contained in this report; we can, however, only allude to the prophylactic inoculations with micrococcus Melitensis vaccine. The results of this measure certainly encourage the hope that its employment might be a measure of practical utility. The inoculated man enjoyed an immunity for a considerable time from any attack of Malta fever.

In Part VII., which concludes the account of the valuable work performed by the Commission, we find details of the epidemiology of Mediterranean fever in the navy, the preventive measures instituted against this fever in the navy, personal observations as to its prevalence in separate battleships, cruisers, and destroyers during 1906, and facts elicited by the study of individual cases, together with a very complete history of the outbreak of the fever on board the s.s. *Joshua Nicholson*. The facts elicited in this section are ably drawn up by Staff Surgeon F. H. A. Clayton, R.N.

Major T. C. McCulloch, R.A.M.C., and Major J. C. Weir, R.A.M.C., next deal with the disease as it affected the army. They consider amongst other matters the prevalence of the fever in the different branches of the service, comparing its seizure of the artillery and infantry and drawing attention to its special prevalence amongst the Royal Army Medical Corps. The age and amount of service in Malta in relation to Mediterranean fever in Malta are dealt with. Proceeding more into detail, the authors tell us of the result of investigations into the milk-supply, the examination of goats, and the distribution of the cases. The cases occurring in the 1st Battalion Royal West Kent Regiment, in the Royal Army Medical Corps, and in hospital are analysed and instances are narrated in which the men were probably infected bour were other things which he would have to supervise. pidemics and endemics would also be dealt with by him. le (the lecturer) was sorry to say that in Scotland there ere places where typhus fever was endemic because the uthorities were too poor to do anything. Maps of isease would have to be prepared similar to meteorological eports, so that the Minister of Health would be ble to follow, and the public read in the papers, he progress or otherwise that disease was making. A Minister of Health, too, who had the power of ordering a ordon to be placed around areas of sporadic diseases would be in a position to collect valuable information in regard to such diseases. Under the heading of preventive medicine the first place should be given to education and children should be taught to know what things produced health and what things produced ill health. The specific treatment of disease opened up the question of the individuality of the subject, and in regard to vaccination he thought that if it was a good thing for the public health it ought to be enforced. It was ridiculous to have an Act on the statute book if it was not enforced. The new Minister would take over all the powers conferred under the Local Government Board Acts in relation to public health and would have to be assisted by a large and properly coördinated staff. The Minister of Public Health should have the same power with regard to human beings as the *Board of Agriculture* with regard to the lower animals. He should be in the Cabinet and directly responsible to Parliament. He thought that people were realising more and more the importance of preventing disease. If the health of the people was to be effectively dealt with from infant life to adult life the public safety must be put in the hands of experts under the jurisdiction and control of Parliament.

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[1] Report of the Commission appointed by the Admiralty, War Office, and the Civil Government of Malta for the Investigation of Mediterranean Fever, under the supervision of an Advisory Committee of the Royal Society. Part VI. Pp. 137. Price 3s. Part 7. Pp. 251. Price 5s. London: Harrison and Sons. April, 1907.

In the discussion which followed Sir WILLIAM COLLINS said that in perusing Hansard's Parliamentary Reports it seemed to him that the health of nations occupied almost as much space as the wealth of nations. Accepting central and local organisations as they are, it remained to be seen what could be done to unify the work of each. He would, however, view unfavourably any attempt at over-concentration or at violent coercive legislation—he did not think that a policeman should ever enforce a prescription. Although by his very training a medical man was fitted to take part in public affairs, yet he preferred to regard him as a friend, philosopher, and guide rather than as a benevolent despot armed with an Order in Council. The public must beware lest whilst they were true to humanity they were false to liberty. He confessed on the whole matter he was not prepared to commit himself and thus he had, he hoped, been able to preside with due impartiality.

A resolution was adopted in the following words:—

> That this meeting is of the opinion that the time has come when a Minister of Public Health should be recognised and be given a seat in the Cabinet of His Majesty's Government. In this way not only would the administration of medical matters in the different official departments be systematised but also a much-needed quickening of the "National Health Conscience" would be effected.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on May 9th, Mr. HENRY MORRIS, the President, being in the chair.

Dr. Alexander Hill and Professor Arthur Thomson were introduced and after signing the by-laws and making the required declaration were admitted Fellows of the College.

Mr. Donald J. Armour was introduced and the President handed to him the Jacksonian prize together with a document declaratory of the award.

In accordance with a report from the Court of Examiners it was resolved that diplomas of Membership should be issued to 110 successful candidates.

A report from the Committee of Management on the subject of the teaching of midwifery was approved and adopted. The main points in the report were: (1) that every student shall himself conduct 20 labours, but before conducting these labours he shall be required to have held the posts of medical clinical clerk and of surgical dresser during six months each, and to have attended a course of practical instruction in midwifery; and (2) that every student shall be required to discharge the duties of clinical clerk in the gynæcological wards or out-patient department.

The Committee of Management further reported that it had received from Dr. Theodore Dyke Acland a report on the examinations of the Egyptian Medical School. The thanks of the Council were given to Dr. Acland for his valuable services in the matter.

It was decided that no Fellows' dinner should be held this year.

A letter was read from Lord Lister thanking the Council for its kind words of congratulation on the eightieth anniversary of his birth.

The PRESIDENT stated that, as requested by the Council on Nov. 8th, 1906, he had appeared before the Royal Commission on Vivisection and had given evidence on behalf of the College.

A letter was read from Dr. Thomas James Walker, of 33, Westgate, Peterborough, stating that to mark the completion of the fiftieth year of his Membership of the College he asked the President and Council to accept a volume of original notes of John Hunter's Lectures, taken by Mr. Hopkinson who, 100 years ago, was carrying on the practice now conducted by Dr. Walker in association with his son and Dr. G. Kirkwood. The Council accepted the gift and passed the following resolution:—

> The Council hereby express to Dr. Walker their warm thanks for marking the completion of his fiftieth year of Membership of the College in so generous a manner, and assure him that his very valuable gift will be preserved with the greatest care and appreciation.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Outbreak of Enteric Fever in the Borough of Mansfield, by Dr. THEODORE THOMSON.[1]—In this report Dr. Theodore Thomson gives an interesting account of an epidemiological inquiry into an outbreak of enteric fever which occurred last autumn in the borough of Mansfield (in the county of Nottingham) and in the adjacent urban district of Mansfield-Woodhouse. The borough has a population of some 29,000 persons and Mansfield-Woodhouse of about 7000. Typhoid fever had not shown excessive prevalence in either district during previous years. In 1906 a few scattered cases of enteric fever occurred in the borough during the earlier months and seven cases between the beginning of July and the end of September. These were followed by a total of 89 cases in the last three months of the year. The most definite epidemic period was between Oct. 17th and Nov. 11th, during which 60 cases were notified. In Mansfield-Woodhouse the circumstances were parallel, and it was clear that this district had been affected, in proportion to its population, in much the same way as the adjoining borough. In the earlier stages of the outbreak in October suspicion fell on a particular milk-supply. On the premises of the dairyman in question it was the custom to store milk in a back yard. Here there was a pail closet which had been used by an inmate of the dairyman's house who had suffered during September from an illness suspected to have been enteric fever. At first sight the fact that there was no exceptional incidence of enteric fever either in the neighbourhood of the dairyman's premises, among customers buying milk over the counter, or among the regular customers whom he supplied by cart, seemed to remove all suspicion from his milk. But the particular milk which was stored in the back yard and so became exposed to contamination carried from the pail closet by flies or other agencies of transmission of infection turned out to be residual milk which the dairyman habitually sold to other milk dealers in Mansfield whose supplies had run short during the dry weather which prevailed during the summer and autumn of 1906. Several dealers furnishing milk to customers in different parts of the town obtained a supplementary supply in this way, and it seemed that a theory of milk causation might in the circumstances square with the fact that the cases of fever were not localised but were scattered throughout Mansfield and Mansfield-Woodhouse. When the facts came to be worked out fully, however, it appeared that there was no materially greater incidence of enteric fever among customers of milk procured. These farms covered 250 acres and were suitably arranged for the prosecution of the farm colony which is part of the scheme proposed by the association. In regard to water an ample and excellent supply has been obtained from an artesian well 160 feet deep, supplying 2000 gallons an hour, which is raised by a three and a half horse power oil engine to a reservoir on the highest part of the site from which the water will gravitate to the sanatorium.

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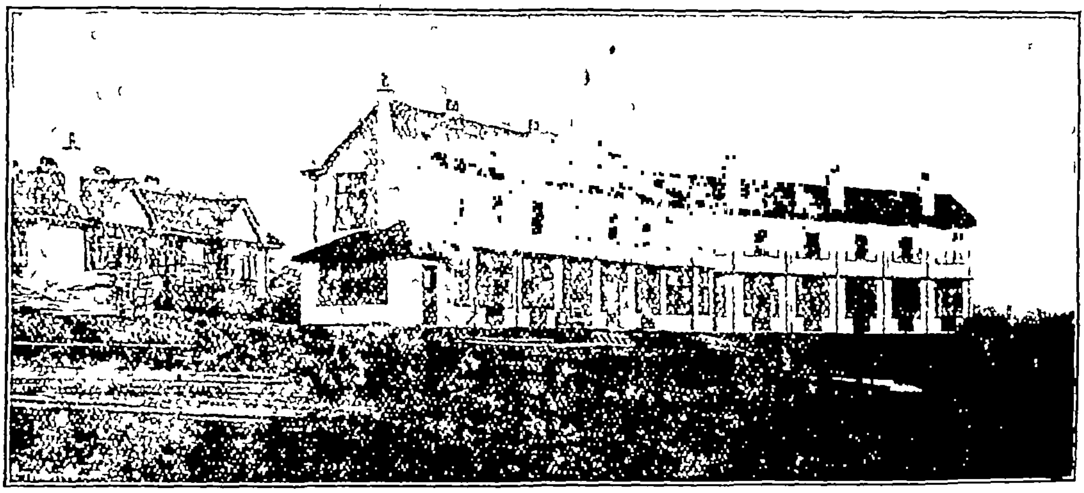
[1] London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. No. 254. Price 4d.



The National Sanatorium, Benenden, Kent

The institution is divided into a central block to accommodate 68 patients, an administration block and dining hall, and a laundry and electric-light block. Pavilions will be added later bringing up the number of beds to 200. The central portion for 68 patients has been erected 230 feet above sea level, with an uninterrupted view to the south; it is two storeys in height and is divided into two parts by a recreation room which forms the centre of the block; the wings at the outer extremities of this portion of the building are inclined inwards so as to afford shelter. In this main block it is intended to place the more serious cases which are likely to require most medical and nursing attention. Of the rooms provided in this part 20 are single-bedded rooms, the remainder being double-bedded. The fall of the ground has been utilised for placing the sterilising apparatus and the steam boiler under one end of the building. The water for the lavatories and baths is heated by steam as are the rooms by anthracite stoves. The drainage is carried out on the septic tank system. The lavatory towers are cut off from the main building by cross-ventilated corridors. Along the whole length of this part of the sanatorium there is a terrace.

A portion only of the administration block has as yet been erected, consisting of the dining hall and accommodation for the resident medical officer, the matron, the nurses, and the servants. The method of construction is entirely new for this class of building; it is of steel framing throughout, the intermediate space between the stanchions and girders being filled in with "frazzi," cement rough-cast on the outside and plastered on the inside, the floors and partitions being made in the same way. This method of construction offers great advantages. It is certainly economical, for the cost per bed works out at £100. The building is permanent and fireproof throughout; it is warm in winter and cool in summer. Although the floors and doors are of teak it is believed that the extra initial cost will be found to be an economy in the end. Each room has a double French casement opening to the ground directly to the south, and there are open sashes into the corridor at the back at the level of the ceiling. The main objects have been to arrive at a plan which will give the minimum amount of work in its future maintenance whilst at the same time sacrificing nothing in regard to efficiency.

The illustration of the institution is from a photograph supplied by the architect, Mr. A. William West.

"THE NECESSITY FOR A MINISTER OF PUBLIC HEALTH."

Under the auspices of the New Reform Club Dr. A. Rolland Rainy, M.P., delivered on May 10th at Adelphi Terrace an address on "The Necessity for a Minister of Public Health." Sir William J. Collins, M.P., who presided, said that no one who studied the development of legislation or municipal administration could fail to be struck with the fact that the State was tending more and more to seek if not to act upon medical advice. Medical men had already been municipalised and there was a tendency towards nationalising them. He and his colleagues could not help feeling, however, that greater demands were made upon the medical profession by public bodies than medical science and art could respond to, for medicine was not an exact science and did not lend itself readily to the methods and processes of legislation.

Dr. Rainy said that the creation of a Minister of Public Health would put the medical profession on the same basis as the navy, the army, and the legal profession. The navy and army were supported by the State in order that the people might be protected from foreign enemies. In the same way the medical profession would protect us from the enemy, disease. But if the medical profession were lifted into a recognised department of the State it must accept the limitations which a service of this kind imposed. He admitted that he could not quote the conditions prevailing in other countries as a guide but said that his investigations had shown him that the whole matter of public health in this country was chaotic, ineffective, and expensive. With regard to the further question whether, if there were a Minister of Health he should be a medical man he thought that unless there should be a medical man in the House of Commons of very exceptional ability the Minister had better be a layman. The medical profession was represented in the House by a small body, and he could not help feeling that other Members looked upon them very often as seeking the interests of the profession to which they belonged more than that of the public, though, of course, there was no justification for that feeling. It was, however, an important fact to remember, and he considered that it would be unwise to suggest that the new Minister should be a member of the medical profession. The speaker went on to point out the range of the duties of a Minister of Public Health. He would be expected to take charge of the air and to see that air was supplied to everybody under proper conditions. Light would also be under his charge as well as the conditions under which food could be bought and sold and the source of its supply. Clothing was another matter of which he would have some control. With regard to the matter of food and clothing if the people had advanced along Socialistic lines to the extent of saying that a child was to be educated that child ought to be in a position to be taught properly and that implied proper clothing and food. Sanitation and hours of to 21·8 in Leith and 24·0 in Perth. The 671 deaths in the eight towns showed a decline of 19 from the number in the previous week, and included 110 which were referred to the principal epidemic diseases, against 133, 121, and 106 in the three preceding weeks. These 110 deaths were equal to an annual rate of 3·2 per 1000, which was double the rate from the principal epidemic diseases in the 76 English towns; they included 40 from whooping-cough, 36 from "fever," 15 from diarrhœa, 12 from measles, four from diphtheria, and three from scarlet fever, but not any from small-pox. The fatal cases of whooping-cough, which had declined from 55 to 44 in the four preceding weeks, further fell to 40 last week, and included 27 in Glasgow, six in Aberdeen, four in Edinburgh, and three in Dundee. The 36 deaths referred to "fever" showed a decline of ten from the number in the previous week, and included 22 in Glasgow, six in Edinburgh, five in Leith, two in Paisley, and one in Dundee; with the exception of four cases in Glasgow and one in Leith these deaths were attributed to cerebro-spinal meningitis. The fatal cases of diarrhœa, which had been 17, 12, and six in the three preceding weeks, rose again last week to 15, of which eight occurred in Glasgow, three in Dundee, two in Edinburgh, and two in Aberdeen. The 12 deaths from measles were six in excess of the number in the preceding week and included seven in Glasgow, three in Leith, and two in Edinburgh. Two fatal cases of scarlet fever and two of diphtheria occurred in Glasgow, and two of diphtheria in Aberdeen. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 103, 109, and 127 in the three preceding weeks, declined again to 107 last week and were slightly below the number in the corresponding week of last year. The causes of 26, or 3·9 per cent., of the deaths registered in the eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified deaths in the week under notice did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 33·5 and 26·4 per 1000 in the two preceding weeks, further declined to 24·0 in the week ending May 11th. During the first six weeks of the current quarter the death-rate has averaged 27·7 per 1000; the rates during the same period being only 18·1 in London and 18·1 in Edinburgh. The 180 deaths of Dublin residents during the week under notice showed a decline of 18 from the number in the preceding week, and included 17 which were referred to the principal epidemic diseases, against 29 and 14, in the two preceding weeks; of these, eight resulted from whooping-cough, six from measles, and one each from diphtheria, from "fever," and from diarrhœa, but not any from small-pox or scarlet fever. These 17 deaths were equal to an annual rate of 2·3 per 1000, the rates during the same period from the principal epidemic diseases being 1·5 in London and 2·3 in Edinburgh. The fatal cases of whooping-cough, which had been 15 and 10 in the two preceding weeks, further declined last week to eight; the deaths from measles showed a marked increase over the number in the preceding week. The 180 deaths from all causes included 37 of children under one year of age and 50 of persons aged upwards of 60 years; each of these numbers showed a slight increase. Four inquest cases and four deaths from violence were registered; and 64, or 35·6 per cent., of the deaths occurred in public institutions The causes of seven, or 3·9 per cent., of the deaths in Dublin were not certified; in Edinburgh the percentage of uncertified deaths was 7·8, while in London all the causes of death were duly certified. The 174 deaths registered in Belfast during the week included 16 which were referred to cerebro-spinal fever or cerebro-spinal meningitis, showing a decline of nine from the number in the preceding week.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeon: F. G. Wilson to the *Hussar*, on completing.

ROYAL ARMY MEDICAL CORPS.

Lieutenant Colonel S. F. Freyer, Lieutenant-Colonel A. S. Rose, Major E. W. Slayter, Captain F. E. C. Robinson, Captain N. E. Harding, and Captain J. B. Weldon have arrived home from India. Captain B. B. Burke has joined at Woolwich. Major G. F. Alexander has been appointed to the medical charge of the troops of the 3rd Infantry Brigade at Aldershot.

IMPERIAL YEOMANRY.

Berks: Maurice Were Coleman to be Surgeon-Lieutenant (extra), under the conditions of paragraph 28, Imperial Yeomanry Regulations (dated April 15th, 1907). Sussex: John Robert Steinhaeuser to be Surgeon-Lieutenant (extra), under the conditions of paragraph 28, Imperial Yeomanry Regulations (dated March 27th, 1907).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Cumberland: Samuel Edward Rigg to be Surgeon-Lieutenant (dated April 1st, 1907). 1st Forfarshire: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel W. Chalmers Cowan resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated April 3rd, 1907); Surgeon-Lieutenant H. C. Coleman to be Surgeon-Captain (dated April 3rd, 1907).

Royal Engineers (Volunteers): 1st (Sheffield) Yorkshire (West Riding): Joseph Mitchell Benson to be Surgeon-Lieutenant (dated March 26th, 1907).

Rifle: 4th Volunteer Battalion the Cameronians (Scottish Rifles): Surgeon-Captain N. Macnair resigns his commission (dated April 6th, 1907). 1st Volunteer Battalion the Hampshire Regiment: Supernumerary Surgeon-Captain H. M. Brownfield is granted the honorary rank of Surgeon-Major (dated March 4th, 1907). 1st Dumbartonshire Volunteer Rifle Corps: James Patterson Wilson to be Surgeon-Lieutenant (dated Feb. 28th, 1907). 6th Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant (Honorary Lieutenant in the Army) M. J. Mahoney to be Surgeon-Captain (dated April 10th, 1907). 2nd Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): William Duncan to be Surgeon-Lieutenant (dated March 26th, 1907).

DEATHS IN THE SERVICES.

Surgeon-Major Lancelot Armstrong, A.M.D., at Weston-super-Mare, on May 11th. He entered the service in 1854 as assistant surgeon, became surgeon in 1864, and retired with the rank of surgeon-major in 1876. He served throughout the Eastern campaign of 1854–55, including the reconnaissance on the Danube under Lord Cardigan. At Balaclava he commenced the ride with the Six Hundred but dismounted when men were falling and attended to the wounded under the fire of the Russian batteries (medal with four clasps and Turkish medal).

VOLUNTEERS AND AMBULANCE INSTRUCTION.

The annual dinner of the staff and members of the Volunteer Ambulance School of Instruction was held on May 10th at the Trocadéro Restaurant. Surgeon Colonel P. B. Giles, V.D., the commandant, occupied the chair. Lord Methuen, in proposing the toast of "The Army Medical Department," said that had Mr. Haldane been present they would have availed themselves of the opportunity of impressing upon him the desirability of the corps being placed upon a proper footing and having a regimental system. Sir A. H. Keogh, in responding, said all that they asked was that they should be made a consolidated body. He believed that Mr. Haldane was in sympathy with them in that desire.

THE ARMY COUNCIL AND STERILISATION OF WATER.

The Army Council proposes to issue new filter water-carts to the home troops in order that they may be familiarised with methods of water sterilisation.

A MILITARY HOME HOSPITALS RESERVE.

The *Broad Arrow* states that with the sanction of H.R.H. the Prince of Wales the Chapter General of the Order of St. John of Jerusalem has been in communication with the War Office as regards the formation of an organised body to be termed "The Military Home Hospitals Reserve," which will be recruited, so far as the medical staff is concerned, from the St. John Ambulance Association and from the St. John Ambulance Brigade, and, as regards other ranks, from the St. John Ambulance Brigade. Certificated pupils of the St. John Ambulance Association who may possess, or acquire, the necessary qualifications, as (a) compounders, (b) clerks, and (c) cooks, who are willing to volunteer, will be enrolled to fill these dealers who supplemented their supply by milk stored on the premises in question, nor was there reason to suspect other milk. The preponderating ages and sex of the persons attacked were not what are usually found in outbreaks due to infected milk; more males were attacked than females and relatively few children.

Having been able definitely to exclude milk, Dr. Thomson made systematic inquiries as to various other likely or unlikely agencies of infection, but with negative results. These inquiries related in turn to the consumption of shell-fish, ice-cream, watercress and other greenstuff eaten raw, aerated waters, and butter, and to the possibility of the epidemic having originated in infection among persons employed in the local coal workings. It appeared also that there was no special relation of the disease to conservancy systems. In the borough of Mansfield the fever occurred in 1·7 per cent. of 4365 houses with water-closets, 1·2 per cent. of 828 houses with midden privies, and 0·6 per cent. of 807 houses with pail closets. In regard to defects in drainage, removal of refuse, and general cleanliness, the houses in which the disease occurred were, as a whole, no worse than others which escaped, while many were entirely free from defective conditions in these respects. There was no localisation of incidence corresponding to the distribution of particular sewerage systems or particular sewers.

All this negative evidence when considered together with the facts as to the incidence and general distribution of the disease throughout Mansfield and Mansfield-Woodhouse and with the circumstance that these two places are supplied in common by a single water service, tended to direct special attention to the possibility or probability of a water infection. But here also at first sight any hypothesis of infection by the water-supply seemed unlikely. The water is derived from a deep well in the Bunter beds of the New Red Sandstone about three miles out of Mansfield. The well is 110 feet deep and protected by a lining of blue bricks, supplemented by cement concrete backing and by cast-iron tubing for a depth of 69 feet. The Bunter beds consist of compact sandstone and are considered to be practically without fissures. There are, however, certain boreholes by the side of the well to which surface water or drainage from the engine room floor might have gained access and so have reached the supply. In this connexion it is noteworthy that after nearly three weeks of almost complete drought there was a moderate rainfall about the end of the second week in September, followed by an unusually heavy fall on Oct. 2nd. The latter rainfall occurred a fortnight before the commencement of the epidemic proper. Nevertheless on local inquiry Dr. Thomson found nothing to suggest that during the period in question there was any opportunity of specific infection which, in consequence of heavy rainfall or otherwise, might have gained access to the supply. For various reasons it seemed possible to put aside the question of infection having taken place in the mains or otherwise in course of the distribution of the water after it had left the pumping-station. Moreover, water from the same well is distributed, not only to Mansfield and Mansfield-Woodhouse but also to other localities with a total population of 7000, among which no case of enteric fever is known to have occurred during the last four months of 1906. The entire freedom of so large a body of persons from the fever during all these months afforded by itself strong presumption against the water-supply having served as the carrier of infection in the areas invaded by the disease. Dr. Thomson points out, however, that the water supplied to this population of 7000 differs in one respect from that supplied to the greater part of Mansfield and Mansfield-Woodhouse. Before distribution it has a period of rest in one or the other of two local reservoirs, and this rest period may be as much as, or more than, three days. In this relation also attention is drawn to the escape from fever of a small area in Mansfield itself which happens to draw its supply from a special reservoir which insures that the water has a longer period of delay before reaching the consumer than that which furnishes the bulk of the supply. Looking at the whole circumstances Dr. Thomson concludes that the evidence neither warrants the absolute exculpation of the water-supply nor affords ground for its definite incrimination. If, in fact, the water-supply was the causative agent it is clear that the infective material borne by it must have been either small in amount or of little virulence. Had it been otherwise the cases of enteric fever would have been counted, not by tens as was actually the case, but by hundreds. On either of these assumptions the escape of areas which got their water only after passage through a reservoir of comparatively large size would be consistent with the causation of the outbreak by water. In the one case the infecting material might have become so disintegrated and dispersed as to lose its power for harm; in the other, the delay in the reservoir might have caused further loss of virulence to the bacilli concerned.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9039 births and 4816 deaths were registered during the week ending May 11th. The annual rate of mortality, which had been equal to 16·8, 16·0, and 15·9 per 1000 in the three preceding weeks, further declined to 15·7 per 1000 during the week under notice. During the first six weeks of the current quarter the death-rate in these towns averaged 16·5 per 1000, the rate during the same period in London being 16·1. The lowest rates in the 76 towns last week were 5·5 in Northampton, 7·6 in East Ham, 7 8 in Smethwick, and 8·1 in Hornsey; in the other towns the rates ranged upwards to 20·7 in Derby, 20·8 in Manchester, 20·9 in Preston, 21·5 in Coventry, 22·4 in Sunderland, and 23·8 in Salford. The 4816 deaths in the 76 towns showed a decrease of 69 from the number returned in the preceding week, and included 493 which were referred to the principal epidemic diseases, against 507, 532, and 530 in the three previous weeks; of these, 186 resulted from measles, 163 from whooping-cough, 50 from scarlet fever, 48 from diphtheria, 29 from diarrhœa, and 17 from "fever" (principally enteric), but not any from small-pox. No death from any of these epidemic diseases was registered last week in Leicester, South Shields, Halifax, Swansea, or in ten other smaller towns; the annual rates from these diseases, however, ranged upwards in the other towns to 4·0 in Birkenhead, 5·4 in Hanley and in Sheffield, 6·1 in Middlesbrough, and 6 6 in Bolton. The fatal cases of measles showed a slight decline from the high numbers in recent weeks; the highest annual death-rates from this disease were 4 0 in Birkenhead, 4·1 in Sheffield, 4·7 in Hanley, and 5·4 in Bolton. The deaths from whooping-cough, which had risen from 155 to 176 in the three preceding weeks, declined again to 163 last week, the mortality being equal to 1·5 per 1000 in Salford, in Oldham, and in Middlesbrough and 2·0 in Stockton-on-Tees. The fatal cases of scarlet fever exceeded the number in any previous week of this year, while on the other hand the deaths from diarrhœa were below the number in any other week for the past 13 months. Diphtheria caused three deaths in Reading, equal to an annual rate of 1·9 per 1000 Of the 17 deaths referred to "fever" two occurred in Barrow-in-Furness, equal to a rate of 1·7 per 1000. One case of small-pox remained under treatment in the Metropolitan Asylums Hospitals at the end of last week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2628, 2649, and 2672 at the end of the three preceding weeks, had declined again to 2658 at the end of last week; 349 new cases were admitted during the week, against 361, 360, and 346 in the three preceding weeks. The deaths referred to pneumonia and other diseases of the respiratory organs in London, which had continuously declined from 412 to 282 in the five previous weeks, further fell to 262 last week, but were 14 in excess of the average number in the corresponding week of the five years 1902–06. The causes of 46, or 1·0 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Bristol, West Ham, Newcastle-on-Tyne, Hull, Leicester, and in 47 other of the 76 towns; the proportion of uncertified deaths, however, showed considerable excess in Liverpool, Blackburn, South Shields, and Burton-on-Trent.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·6 and 19 9 per 1000 in the two preceding weeks, further declined to 19 3 per 1000 in the week ending May 4th, but exceeded by 3·6 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·9 in Aberdeen and 17·5 in Edinburgh

Medicines and medical aid are necessaries for which an infant may contract and render himself liable, but a parent is not liable to pay for such necessaries furnished to an infant child without some proof of a contract on his part, either express or implied, and no such contract will be implied where the infant has been allowed a sufficiently reasonable sum for his expenses. In Cooper *v.* Phillips (4 C. & P. 581) A had several of his children residing in a house distant from his own in the charge of B, a servant. It was held that if an accident happened to one of the children A was liable to pay for his treatment, although he did not know the surgeon who was called in and although the accident might have arisen from the carelessness of the servant. It was held, also, that if B, the servant, becoming ill in consequence of the service, called in C, a surgeon, and after this A sends his own surgeon, and the wife of A knows of C's attendance and expresses no disapprobation A is liable to pay C for this attendance. A servant who hurt her foot in getting over a gate called in a surgeon who was not the regular medical attendant of the family without the knowledge of her master or mistress. It was held that the master was not liable to pay the surgeon's bill. In dealings between medical men and the guardians of an infant it should be remembered that, although the expenses of an extraordinary illness do not form part of the maintenance of an infant, strictly speaking, yet when there has been no extraordinary illness medicine and the medical men's fees must be included in the general allowance for past maintenance and the court will not allow the guardian to claim an extra sum for the same.

A master is not bound to provide medical assistance for his servant, but the obligation (if any) must arise from contract; nor will such a contract be implied simply because the servant is living under the master's roof nor because the illness of the servant has arisen from an accident met with in the master's services. But after July 1st a master or mistress will be liable in case of accident to a servant. A wife has an implied authority to bind her husband for reasonable expenses for medicine and medical attendances incurred during illness. But this implied authority is put an end to if a wife who is not living with her husband as part of his family commits adultery or if she leaves her husband's house of her own accord and without sufficient reason and the fact has become notorious or the husband has given sufficient notice that he will no longer be responsible for any debts which she may incur. If, however, a husband turns his wife out of doors without the means of obtaining necessaries, it is a presumption of law, which cannot be rebutted by evidence, that she was turned out with the authority of her husband to pledge his credit for necessaries, and in such a case medical attendances will be considered one of the most primary necessaries.

THE MILK-SUPPLY OF LONDON: SOME PERSONAL OBSERVATIONS UPON ITS RAILWAY TRANSPORT.

(FROM A CORRESPONDENT.)

IV.[1]

The Result of a Casual Inspection.—The Methods of the New York Milk-supply.—Suggestions for Reform.

MY investigation, as will be seen, in no sense claims to be an exhaustive one. I have simply made notes of a casual inspection. The number of special milk trains running to each terminus *per diem*, the quantity of milk carried to the terminus, and the proportion of milk left at peripheral railway stations and not brought to the terminus are matters that are all in a way germane to the subject, but I have not dealt with them. I am sure that the officials to whom these things are known would readily give the information to your representative; I have confined myself to talking of the conditions under which milk travels from the country to the London market. To a certain extent, however, the bulk of milk that has to be sent must be regarded, for the enormous quantity required produces difficulties of transport and distribution. Directly or indirectly, this is the reason why on any country platform near London at any time of the day, as well as on many London platforms, milk cans, usually unprotected by lock or seal, may be seen standing about. They are waiting till some train, some van, or some cart is at liberty to move them on a stage nearer the London gullet. The question is whether greater rapidity of transport might not be obtained by more orderly methods. At the present time, both in London and in New York, the two cities of the world approximating most closely in population, efforts are being put forth to improve the condition of the milk-supply. I have lived for many years in New York, and, indeed, have left it but a short time, and I had occasion when living there to make myself acquainted with the conditions of its milk-supply.

The inhabitants of New York city consume *per capita* far more milk than do the citizens of London. For whereas it is computed that London's daily consumption of milk *per capita* is about 0·20 pint, that of New York is, according to the authority of Dr. G. M. Whitaker,[1] considerably more than half a pint. Dr. Darlington, the Health Commissioner of New York, in January, 1905, estimated that the city's daily consumption of milk was 1,388,000 quarts, while an editorial article in the *New York Medical Record*, Feb. 16th, places the amount at 1,600,000 quarts daily. If either of these estimates be correct, then the quantity of milk taken into New York daily may exceed that carried into London daily, though London (meaning the county of London) is greatly the more populous area. The milk which is conveyed by rail to New York comes from several states, though the bulk of it is procured from New York State, and travels distances varying from 40 to 400 miles. The cans usually employed for carrying New York milk contain each ten gallons. These cans are carried by the farmers to milk stations situated near railroad stations, from which they are transferred to the trains regularly and promptly. The greater part of the milk sold in New York is distributed and retailed by dealers who own the railroad milk stations. One third or even more of the milk and cream delivered by the railways in New York is contained in bottles, after having been, as a rule, pasteurised at the railway milk stations. Such milk is generally sold to private companies, while the remaining two-thirds are sent to New York in cans to hotels, restaurants, institutions, and to grocery shops. It is worthy of notice that in New York proper there are 7000 grocery shops at which milk is sold.

The railway vans used for carrying milk to New York by the various railways differ from each other only in point of size and in a few matters of detail. They are constructed on a uniform plan. The milk trains are built on the corridor system and resemble the ordinary American "express" carriages, but the word "milk" is painted on each side of a carriage. These vans have no partitions, so that they can be easily kept clean. They are built on the principle of refrigerator vans, with double walls, a trap-door in the roof for taking in ice, and with openings for ventilation in the sides and at the bottom. Many of the milk vans are supplied with pipes, so that steam can be introduced to prevent the milk from freezing in the winter. In the summer the cars are systematically refrigerated. Some of the milk taken into New York by rail is as long as from 15 to 16 hours on the journey, numerous stops having to be made to collect milk *en route*, but it is an exception when this takes place. As a rule special milk trains are run to New York. Sometimes a passenger carriage is attached to a milk train, while occasionally on certain branch railways a milk van is attached to a regular passenger train, or even to a goods train, but when this happens the arrangement is only temporary, the milk van being transferred to a milk train at the nearest junction. Special milk trains running to New York travel at a higher rate of speed than the fastest expresses. Such trains always arrive in New York by night, generally between the hours of 10 and 11 P.M. Some of the milk carried by rail goes to New York proper, but the greater part is unloaded in New Jersey. There are no wharves used for unloading milk for New York. Milk, like many another commodity, is very much dearer in New York than it is in London, the railway charges for carriage being also higher. The New York Interstate Commerce Commission has fixed this rate, which is as follows: on ten gallon cans of milk up to 40 miles, about 1¼*d.* per gallon; between 40 and 100 miles, about 1½*d.* per gallon;

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[1] Nos. I., II., and III. were published in THE LANCET of April 20th (p. 1116) and 27th (p. 1189), and May 11th (p. 1322), 1907, respectively.

[1] Bulletin of the United States Department of Agriculture, 1905, by Dr. G. M. Whitaker. This publication is full of information on the subject.

ratings. The members of this reserve will not be expected to proceed on foreign service but the officers will be required to undertake the administration and the other ranks duties in various capacities of the home military hospitals in time of national emergency, thus enabling the officers and men of the Royal Army Medical Corps, who in time of peace are on duty at these establishments, to proceed at once to the field of operations. The following is the departmental committee of the ambulance department for the institution and development of a Military Home Hospitals Reserve: Chairman (*ex officio*): The Most Hon. the Marquis of Breadalbane, K.G., director, Ambulance Department. Vice-chairman (*ex officio*): Lieutenant-Colonel Sir Richard C. Temple, Bart., C.I.E., assistant director, Ambulance Department. Members: Sir John Furley, C.B.; Colonel Sir Herbert C. Perrott, Bart., C.B., chief secretary, Ambulance Department; Mr. Edwin Freshfield, LL.D., Receiver-General of the Order; Colonel Sir Charles Moore Watson, K.C.M.G., C.B.; Sir Dyce Duckworth, LL.D.; Inspector-General Belgrave Ninnis, R.N., Chief Commissioner, St. John Ambulance Brigade; Surgeon-General Sir Alfred H. Keogh, K.C.B., Director-General, A.M.S.; Surgeon-General Sir William Taylor, K.C.B., K.H.P., late Director-General, A.M.S. Honorary secretaries: Colonel Sir Herbert C. Perrott, Bart., C.B., and Surgeon-General Sir William Taylor, K.C.B., K.H.P.

ANTITYPHOID INOCULATION IN THE ARMY.

The *Journal of the Royal Army Medical Corps* for May is a very good number and the three first papers, which deal with antityphoid inoculation in the army, are of such an interesting and important nature as to call for detailed consideration. This, however, we are for the moment unable to accord to the subject and must consequently be content for the present to call special attention to the articles in question. The first is by Brevet-Lieutenant-Colonel W. B. Leishman, R.A.M.C., on the Progress of Antityphoid Inoculation in the Army. This is followed by a Report on the Results of Experiments in Connexion with Antityphoid Vaccination, by Major W. S. Harrison, R.A.M.C., and by a Report on the Outbreak of Enteric Fever and the Effect of Antityphoid Inoculation among the 17th Lancers, Meerut, India, by Lieutenant E. J. H. Luxmoore, R.A.M.C. Colonel Leishman gives a brief but lucid and interesting history of the system of protective inoculation against enteric fever in the army from its introduction by Sir A. E. Wright in 1897 up to the present time, inclusive of the facts connected with the occurrence of a severe epidemic of enteric fever in the 17th Lancers shortly after their arrival at Meerut in 1905 as set forth by the attached medical officer, Lieutenant Luxmoore. The evidence afforded on this occasion as to the protective effect of the inoculations was of a striking and exceptional kind and partook of the nature, and had consequently the value, of a scientific experiment. The history of the subject, the progress of antityphoid inoculation, and the latest observations in regard to it as set forth in the above papers strike us as interesting and instructive, as well as indicative of the hopeful progress that is being made.

Correspondence.

"Audi alteram partem."

A DEGREE IN MEDICINE FOR THE AVERAGE LONDON STUDENT.

To the Editors of THE LANCET.

SIRS,—At the recent senatorial elections of the London University the Graduates' Association carried by large majorities four of the five contested vacancies and in the other two instances its candidates were elected unopposed. It must also be remembered that it won both seats which fell vacant in October last. I was not returned last Tuesday but since I came out Sir Thomas Barlow has renounced, for a time at least, the concentration scheme and the union has pledged itself to maintain the standard of the degrees. These were the two main planks of my platform. Our object is therefore attained and I heartily thank the 343 medical members of Convocation who supported me with their votes and influence. With the present Senate there will be no lowering of the standard. How, then, is the average medical student in London to obtain a degree? It seems possible in one of two ways: (1) by reciprocity in the matter of examinations between the London University and the universities of the provinces and colonies, or (2) by the adoption of the one-portal system, carrying with it a degree or the title of Doctor.

I am, Sirs, yours faithfully,

London, May 11th, 1907. ERNEST W. WHITE.

LARGE VESICAL CALCULI.

To the Editors of THE LANCET.

SIRS,—In connexion with Mr. Littlewood's letter I may mention that about eight years ago at the Ancoats Hospital, Manchester, I removed (suprapubically) a calculus weighing nine and a half ounces, flattened ovoid in form, and *encysted* in the trigone to about half its periphery. It was a case presenting great difficulties, but was removed without "seeing" the peritoneum and the man made a perfect and rapid recovery. He was only 22 years of age and had been at active work up to the day on which he presented himself to my out-patient room. Sir Thomas Smith's operation, quoted by Mr. Littlewood, I well remember, as I was present at it; the man was a waiter and he, too, had been working almost up to the time of operation. He, I believe, had had some hæmaturia, my man had not. I have also in my possession a (double) *prostatic* calculus which weighed 552 grains which I also extracted at the same hospital by median perineal section. I believe this to be nearly a record weight for a prostatic calculus. If the Museum of the Royal College of Surgeons of England cares to have these specimens I shall be very pleased to forward them.

I am, Sirs, yours faithfully,

C. E RICHMOND, B.Sc. Vict.; F.R.C.S. Eng., &c.

Stockton Heath, Warrington, May 12th, 1907.

RECOVERY OF MEDICAL FEES.

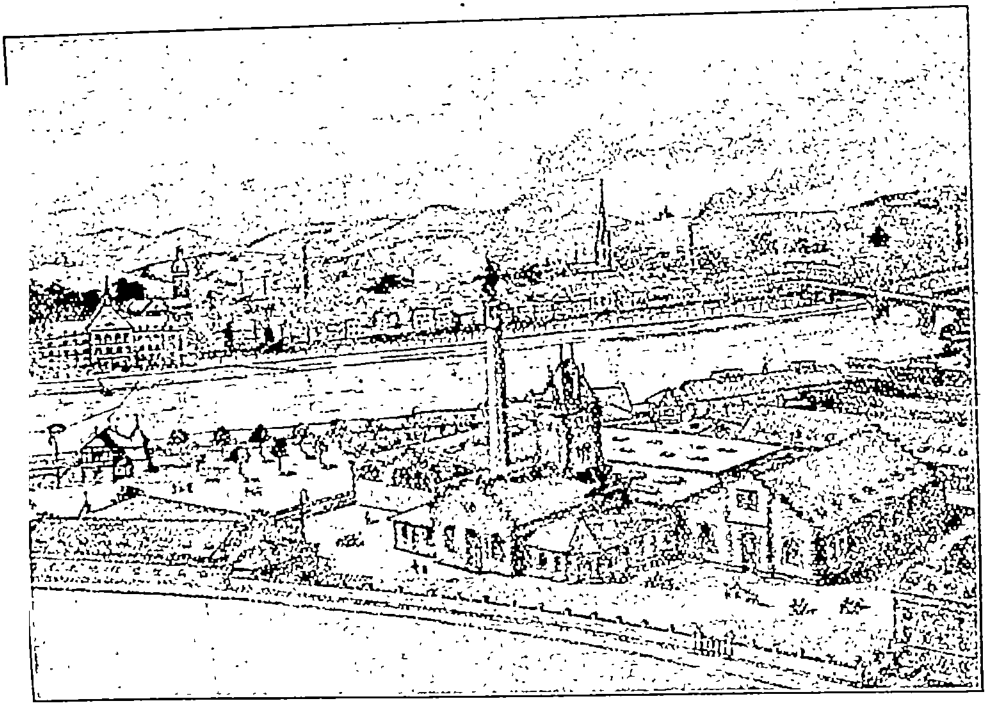
(FROM A LEGAL CORRESPONDENT.)

EVERY person registered under the Medical Acts is entitled to practise medicine and surgery in any part of His Majesty's dominions and to demand and to recover in any court of law, with full costs of suit, reasonable charges for professional aid, advice, and visits, and the cost of any medicines or other medical or surgical appliances rendered or supplied by him to his patients, but no person is entitled to recover any such charges in any court of law unless he can prove upon the trial that he is so registered. It is not, however, essential to entitle a medical man to maintain an action for *attendances* and *medicine* that he should be registered at the time when he gave such attendances and supplied such medicine, it is enough if he appears to be duly registered at the time of the trial, when he tenders proof of registration in evidence. Where a medical man is suing on a promissory note, given in consideration of professional services, it will be necessary for him to prove registration to entitle him to recover.

Where the chief medical officer of a foreign ship lying in the Thames engaged a foreign medical practitioner, domiciled and practising in England but unregistered, to take charge of the sick soldiers and sailors of that vessel (some of whom were on board that vessel and some on shore) during *his temporary absence abroad*, at a fixed monthly sum, it was held that the *unregistered practitioner could not recover* on such contract, for that the defendant, when he went abroad, was in the situation of an ordinary paymaster, and not the less so because *he happened to be a medical man*, and *although* the contract was made on board a foreign ship, yet by whatever law the contract was to be interpreted the remedy must be governed by the *lex fori*.

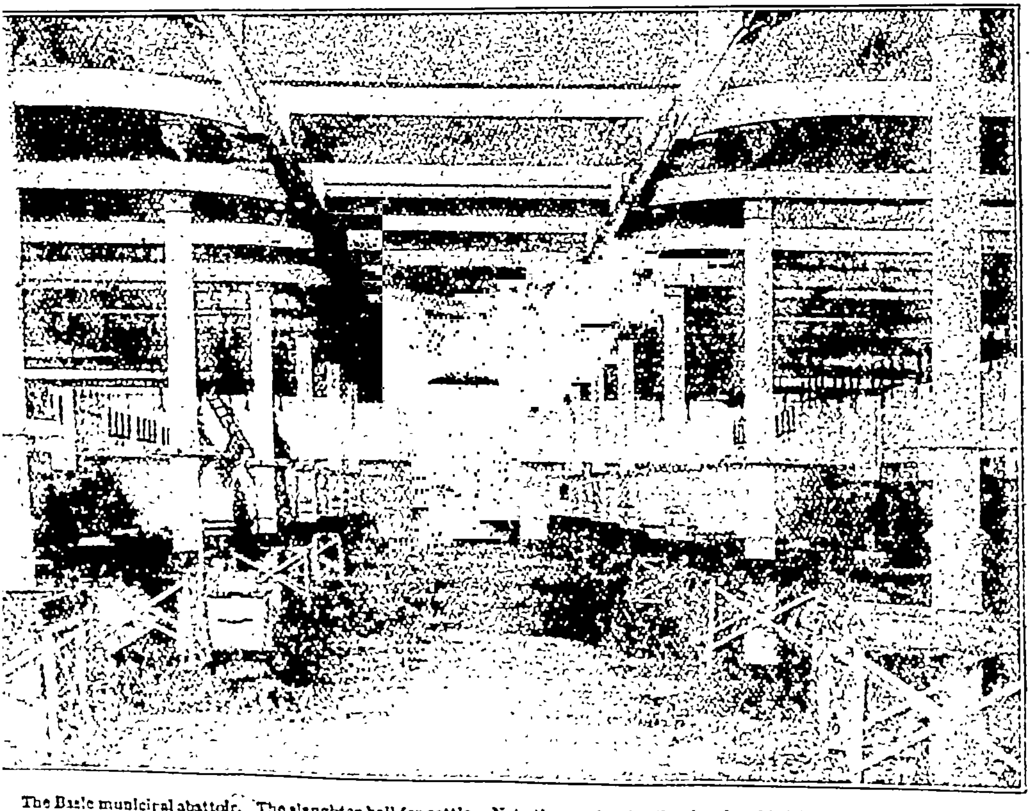
A copy of the Medical Register for the time being, purporting to be printed and published under the direction of the General Medical Council, is evidence in all courts that the persons therein specified are registered according to the provisions of the Medical Acts. In the case, however, of any person whose *name does not appear in such copy*, a certified copy under the hand of the registrar of the General Medical Council, or of any branch council, of the entry of the name of such person in the general or local register is evidence that such person is so registered.

FIG. 1.



A bird's-eye view of the Basle municipal abattoir.

FIG. 2.



The Basle municipal abattoir. The slaughter hall for cattle. Note the overhead rails, the glazed brick walls, and the hollow window panes on the right hand side.

between 100 and 200 miles, about $1\frac{3}{8}$d. per gallon; and 200 miles and over, about $2\frac{3}{10}$d. per gallon.

What can be done in the State of New York could, it appears to me, be done in England. The difference of prices ought not to be an insuperable difficulty, for the present methods are not economical, and the same profits might be made by all concerned in the milk trade that are made now, after the removal of the obvious drawbacks of the existing system, or want of system, of which London in particular complains. Milk cans before they leave the dairy farms from which they are sent should be locked or sealed. This would not add to the cost of the milk appreciably. In a short time it would become a matter of routine on which practically no time would be spent. Whatever leads to the decanting of milk on railway platforms should be altered. The custom is absolutely dangerous and ought to cease at once. The number of special milk trains should be increased. The practice of carrying milk in the guards' vans of passenger trains should not be permitted. Some of the milk vans used by certain of the railway companies for bringing milk into London did not appear to me to be very well adapted for the purpose, but any special van, receiving special attention, is better than a guard's van or a luggage van. Passenger guards' vans which are used as milk vans by some railway companies are not adequately ventilated; they cannot be fit for the milk service if the weather be hot and the distance to be traversed be long. Perhaps in these circumstances they are never used, but if it was a uniform custom to convey all milk in a sanitary manner economy would result. Neither are open-boarded vans quite suitable for carrying milk for the reason that wet and dirt are easily admitted. As to the employment of refrigerating apparatus in milk vans, the general opinion seems to be that the distance which milk is carried by rail in England is not sufficiently long to render such a procedure necessary. Moreover, the use of chilling methods is becoming common in the larger dairies and is not, I believe, very expensive. When this is done milk can be carried in hot weather for long distances, and probably railways consider chilling a valuable precautionary measure to take against the risk of chemical change during transit, but here again a uniform method of refrigeration would be preferable. Chilling may be done at some dairies and not at others, but if all milk were carried in milk trains and kept artificially cool the risk of chemical change could be diminished to the vanishing point. Refrigeration in the railway train might possibly be done away with if the milk can was protected by means of a cover or outside lining made of some efficient non-heat-conducting material. The question of refrigerating milk while in transit on the railways in this country is, of course, of far less importance than in those countries in which the climate is warmer, and in which milk must be transported by rail for long distances. Nevertheless, many authorities are of the opinion that the subject is deserving of closer attention than has been paid to it hitherto. Dr. W. Collingridge, medical officer of health of the City of London, has stated emphatically that among other much-needed improvements tending towards the safeguarding of the milk-supply railway companies which carry milk should be compelled to provide special refrigerator vans for the purpose. Refrigerating methods are largely employed now in all the large dairies and milk should be chilled and kept at a proper and equable temperature from the time it leaves the dairy farm until it reaches its destination. Refrigerating vans can be provided at no great expense. If the railway companies found that there was a widespread demand on the part of the general public that refrigerator vans should be provided for the carriage of milk then such vans would be soon supplied.

The railways would probably have something to say as to the increased expenditure and might desire to raise the rates of carriage somewhat. But the rates charged for conveying milk to London, according to many of the farmers, are too high, while the railway companies contend that they are extremely moderate. The same rate is charged for milk transport by all the railways running into London—viz., 1d. per gallon. This rate compares favourably with the rate charged in the eastern part of the United States, but the milk there fetches a higher price. To the ordinary observer it seems probable that the railway rates are not much to blame. No one argues that the vendors of milk are specially oppressed and no one can contend that English railways are amassing large fortunes for their shareholders. What is probably to blame is the lack of system.

Is it foolish to hope that soon we shall see all our metropolitan milk conveyed in special trains to special sidings in circumstances that make contamination or chemical change well-nigh impossible? And would it not be well if the London County Council were to look into the American system of milk stations on the railways, where milk could be received from the farmer of the locality, kept in a proper manner, handled in a proper manner, and placed in a proper manner upon the special trains. I do not believe that such an orderly way of doing things would end either in the price of the milk going up or in the profits of the farmer, the purveyor, or the railway going down.

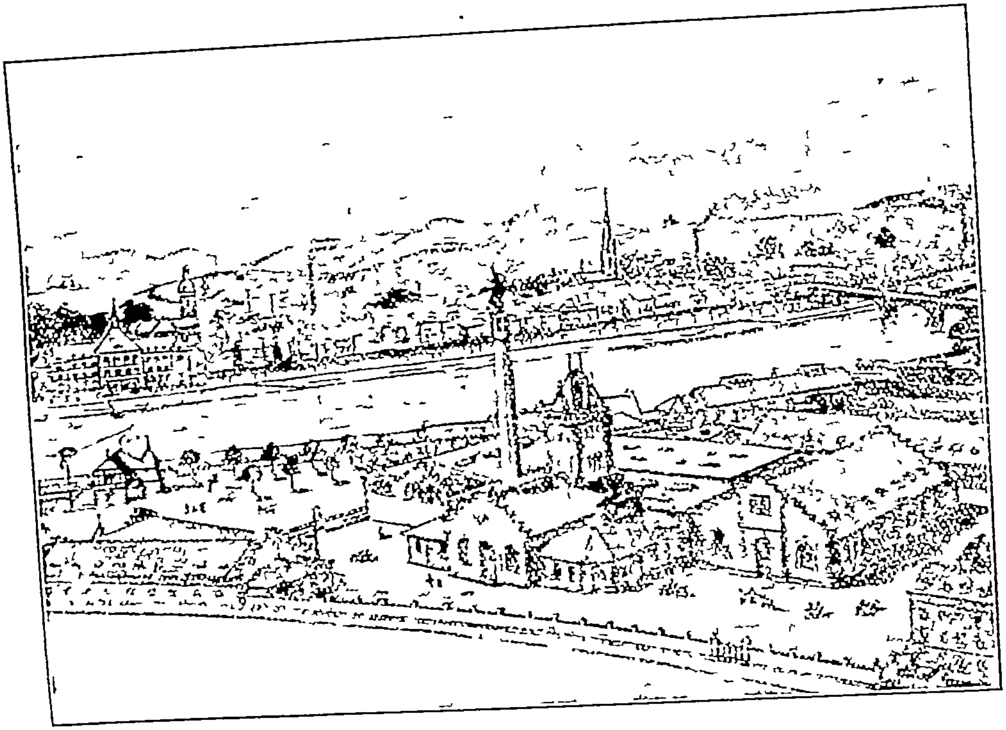
THE BASLE MODEL MUNICIPAL ABATTOIR.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE ancient town of Basle is familiar to many tourists who annually travel to Switzerland, though most persons content themselves with changing trains at its busy junction station. Basle is an important historic and cathedral town and has a population of close upon 100,000 inhabitants. It is situated on the banks of the Rhine and in the point of an angle or wedge of land thrust in between Alsace and the Grand Duchy of Baden. Thus German territory is within sight and an easy walk from Basle. Perhaps this proximity may help to account for the fact that at Basle the best and most novel German devices have been adopted in the newly built municipal slaughter-house. Indeed, it is not a long journey down from Basle to Mannheim or to Offenbach, which towns possess public abattoirs that are renowned throughout the world for their excellent installation. In Switzerland there have been public slaughter-houses, at least for the larger animals, for more than 200 years. At the present time it would be difficult to find a locality with more than 2000 inhabitants which has not its public slaughter-house. On the other hand, it must be confessed that many of these are very roughly built and have appliances of a very primitive description. Nevertheless, there is generally a veterinary surgeon in the neighbourhood who is supposed to control these places. Moreover, Article 31 of the Fundamental Laws of the Swiss Confederacy authorises the communes as a sanitary measure to render the use of the public slaughter-house obligatory. Some of the slaughter-houses have been built partly at the cost of a syndicate of butchers and partly out of the proceeds of local taxation. But in the larger towns—at Zürich and notably at Basle—modern slaughter-houses have been erected which may well serve as models for all countries.

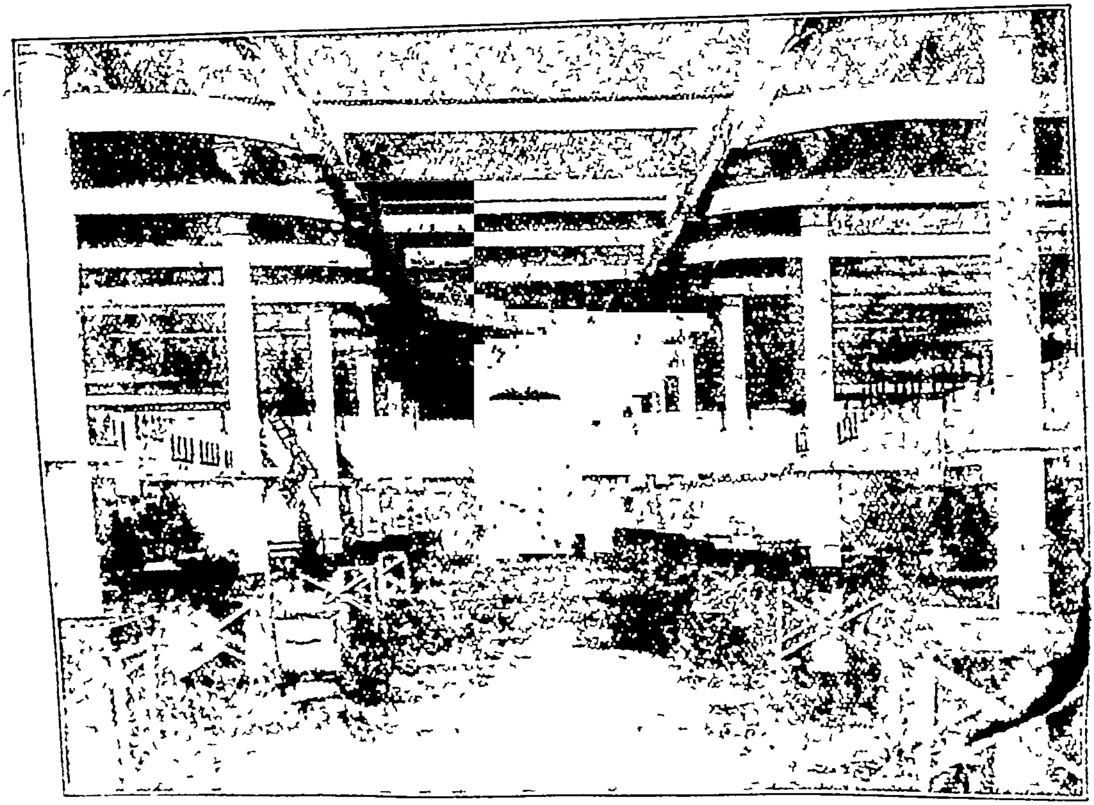
A public slaughter-house was built at Basle in 1870. It yielded a sufficient income to provide the annual contribution of 5 per cent. to the sinking fund. When the loan was paid off the desire was felt to reconstruct and to introduce cold storage—in fact, to have a perfect abattoir. To a large extent the experience of the town of Mannheim served as an example. The new Basle municipal abattoir was completed in 1903. The date, it will be seen, is sufficiently recent to admit of the introduction of the best and most modern improvements. Also the entire management is placed in the hands, not of commercial men, but of Dr. B. Siegmund, who administers according to the scientific and humanitarian point of view and not with a commercial object. The director of the Basle slaughter-house is an eminent member of the Society for the Protection of Animals, and in 1893 he made a present of his invention for the humane killing of animals to the society. Thus it is now public property, Dr. Siegmund having refused to make money out of what he contrived for humanity's sake. His object being to prevent pain, he considered that it would not be right to hinder the rapid diffusion of the system by adding to the cost a royalty for the inventor. Doubtless, the heads of abattoirs generally with their commercial instincts would look upon the director of the Basle abattoir as an incomprehensible Don Quixote not to accept any payment for a really ingenious and useful invention. But it is just because a truly scientific man places a scientific object far and above commercial interests that great institutions such as public abattoirs where the public health is held in trust should be governed by professional men whose objects and ideals are not tainted by financial considerations. These gentlemen

FIG. 1.



A bird's-eye view of the Basle municipal abattoir.

FIG. 2



The Basle municipal abattoir. The slaughter hall for cattle. Note the overhead rails, the glazed brick walls, and the hollow window panes on the right hand side.

between 100 and 200 miles, about $1\frac{3}{8}$*d.* per gallon; and 200 miles and over, about $2\frac{1}{10}$*d.* per gallon.

What can be done in the State of New York could, it appears to me, be done in England. The difference of prices ought not to be an insuperable difficulty, for the present methods are not economical, and the same profits might be made by all concerned in the milk trade that are made now, after the removal of the obvious drawbacks of the existing system, or want of system, of which London in particular complains. Milk cans before they leave the dairy farms from which they are sent should be locked or sealed. This would not add to the cost of the milk appreciably. In a short time it would become a matter of routine on which practically no time would be spent. Whatever leads to the decanting of milk on railway platforms should be altered. The custom is absolutely dangerous and ought to cease at once. The number of special milk trains should be increased. The practice of carrying milk in the guards' vans of passenger trains should not be permitted. Some of the milk vans used by certain of the railway companies for bringing milk into London did not appear to me to be very well adapted for the purpose, but any special van, receiving special attention, is better than a guard's van or a luggage van. Passenger guards' vans which are used as milk vans by some railway companies are not adequately ventilated; they cannot be fit for the milk service if the weather be hot and the distance to be traversed be long. Perhaps in these circumstances they are never used, but if it was a uniform custom to convey all milk in a sanitary manner economy would result. Neither are open-boarded vans quite suitable for carrying milk for the reason that wet and dirt are easily admitted. As to the employment of refrigerating apparatus in milk vans, the general opinion seems to be that the distance which milk is carried by rail in England is not sufficiently long to render such a procedure necessary. Moreover, the use of chilling methods is becoming common in the larger dairies and is not, I believe, very expensive. When this is done milk can be carried in hot weather for long distances, and probably railways consider chilling a valuable precautionary measure to take against the risk of chemical change during transit, but here again a uniform method of refrigeration would be preferable. Chilling may be done at some dairies and not at others, but if all milk were carried in milk trains and kept artificially cool the risk of chemical change could be diminished to the vanishing point. Refrigeration in the railway train might possibly be done away with if the milk can was protected by means of a cover or outside lining made of some efficient non-heat-conducting material. The question of refrigerating milk while in transit on the railways in this country is, of course, of far less importance than in those countries in which the climate is warmer, and in which milk must be transported by rail for long distances. Nevertheless, many authorities are of the opinion that the subject is deserving of closer attention than has been paid to it hitherto. Dr. W. Collingridge, medical officer of health of the City of London, has stated emphatically that among other much-needed improvements tending towards the safeguarding of the milk-supply railway companies which carry milk should be compelled to provide special refrigerator vans for the purpose. Refrigerating methods are largely employed now in all the large dairies and milk should be chilled and kept at a proper and equable temperature from the time it leaves the dairy farm until it reaches its destination. Refrigerating vans can be provided at no great expense. If the railway companies found that there was a widespread demand on the part of the general public that refrigerator vans should be provided for the carriage of milk then such vans would be soon supplied.

The railways would probably have something to say as to the increased expenditure and might desire to raise the rates of carriage somewhat. But the rates charged for conveying milk to London, according to many of the farmers, are too high, while the railway companies contend that they are extremely moderate. The same rate is charged for milk transport by all the railways running into London—viz., 1*d.* per gallon. This rate compares favourably with the rate charged in the eastern part of the United States, but the milk there fetches a higher price. To the ordinary observer it seems probable that the railway rates are not much to blame. No one argues that the vendors of milk are specially oppressed and no one can contend that English railways are amassing large fortunes for their shareholders. What is probably to blame is the lack of system.

Is it foolish to hope that soon we shall see all our metropolitan milk conveyed in special trains to special sidings in circumstances that make contamination or chemical change well-nigh impossible? And would it not be well if the London County Council were to look into the American system of milk stations on the railways, where milk could be received from the farmer of the locality, kept in a proper manner, handled in a proper manner, and placed in a proper manner upon the special trains. I do not believe that such an orderly way of doing things would end either in the price of the milk going up or in the profits of the farmer, the purveyor, or the railway going down.

THE BASLE MODEL MUNICIPAL ABATTOIR.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

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A public slaughter-house was built at Basle in 1870. It yielded a sufficient income to provide the annual contribution of 5 per cent. to the sinking fund. When the loan was paid off the desire was felt to reconstruct and to introduce cold storage—in fact, to have a perfect abattoir. To a large extent the experience of the town of Mannheim served as an example. The new Basle municipal abattoir was completed in 1903. The date, it will be seen, is sufficiently recent to admit of the introduction of the best and most modern improvements. Also the entire management is placed in the hands, not of commercial men, but of Dr. B. Siegmund, who administers according to the scientific and humanitarian point of view and not with a commercial object. The director of the Basle slaughter-house is an eminent member of the Society for the Protection of Animals, and in 1893 he made a present of his invention for the humane killing of animals to the society. Thus it is now public property, Dr. Siegmund having refused to make money out of what he contrived for humanity's sake. His object being to prevent pain, he considered that it would not be right to hinder the rapid diffusion of the system by adding to the cost a royalty for the inventor. Doubtless, the heads of abattoirs generally with their commercial instincts would look upon the director of the Basle abattoir as an incomprehensible Don Quixote not to accept any payment for a really ingenious and useful invention. But it is just because a truly scientific man places a scientific object far and above commercial interests that great institutions such as public abattoirs where the public health is held in trust should be governed by professional men whose objects and ideals are not tainted by financial considerations. These gentlemen ails enables the easy transference of the meat, either o be delivered to the butchers' carts outside or to the cold storage rooms that are close at hand. Here there are large cages with lock and key which butchers can hire at a rental of £10 per annum and keep their meat safely till it is wanted. There are, of course, registering dry and wet bulb thermometers. The thermometer on the day of my visit marked six-tenths of a degree Centigrade below freezing point. Here, as elsewhere, I noticed no odour save that of fresh meat. To realise how this low temperature is maintained throughout the summer it is necessary to visit the splendid boiler-house and engine-house. The power obtained is used to compress carbonic acid gas till it becomes liquid. Then when this is allowed to evaporate through pipes that are immersed in salt water the liquid is reduced to a temperature considerably below zero. The refrigerated salt water is then allowed to fall as a shower-bath in a room where air is collected to feed the entilators. The dust is washed out of the air by the hower-bath and its temperature is lowered to about 3° elow zero Centigrade, and the moisture in the air falls to he ground as snow. Thus a dry and cold air is obtained and entilating fans propel it along shafts to the cold storage ooms. Other fans draw the air out from the cold storage oom so that it may be washed and cooled again and mixed ith a fresh supply of outside air. When the outside air is ery damp then only a smaller quantity of it can be em-loyed. In the engine room there is an observation instrument which records at all times the state of the temperature n different parts of the building. From this centre the emperature is regulated throughout. The enormous advan-age of these scientific and mechanical appliances is that they render the whole process of slaughtering, of preparing, and of preserving meat independent of climatic considerations. The weather may be hot or cold, wet or dry, but the meat while at the Basle slaughter-house will not be affected by these atmospheric fluctuations.

(To be continued.)

SOME TURKISH LAZARETS

AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

With Reproductions of Photographs taken by the Author.)

IV.[1]

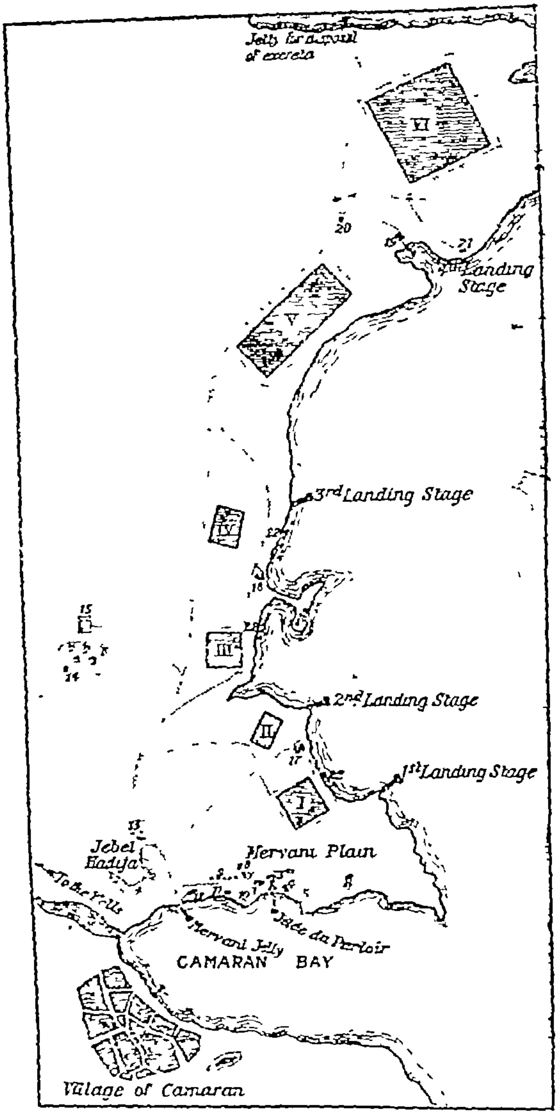
THE CAMARAN LAZARET (*continued*).

The Six existing Cordons: their Dimensions and Contents.—A New Kind of Fencing Proposed.—Kitchens.—General Plan of the Lazaret.—Its Proposed Concentration by transferring the Fifth and Sixth Cordons to other Sites.—New (Seventh) Cordon for Arrivals by Samboul.—The Numbers of Pilgrims for whom Accommodation will be provided.

As already stated, there are six camps or cordons. These are inclosures of various sizes surrounded by a fence and containing a varying number of arishes, the "hospital," "doctor's house," and "house of distinction" mentioned already, fresh-water cisterns, latrines, &c. The position of the six camps is shown in the first of the accompanying sketch-maps of the lazaret. They are widely separated from each other, so widely that the whole length of the lazaret, from south to north, is about five kilometres, or, roughly, three miles. This great and unnecessary extension of the lazaret leads to many disadvantages. The work of the staff is much increased; time is needlessly lost in getting from one part of the establishment to another; the more distant camps are rarely used and the upkeep of the buildings they contain is badly neglected; the length of the railway and of the fresh- and salt-water pipes is enormously increased; in a word, the whole institution, instead of being compact and concentrated and easily supervised from the administrative centre, is exactly the reverse. In addition, the great length of the lazaret adds seriously to the difficulties of excreta removal under the system (to be described later) now adopted and increases the risks of removing the seriously sick from the more distant camps to the central hospitals.

For these reasons the Commission urges the diminution of the total length of the lazaret by about half. This can easily be effected by abandoning the present fifth and sixth cordons (one of which, the sixth, is almost never used and the other rarely) and building a new cordon between the present third and fourth cordons, and another one to the north of the fourth cordon. There will thus still be six cordons. It will be necessary further to abandon the third disinfecting pavilion, or rather to transfer it to a spot near the land end of the third jetty (as described in an earlier article). The fourth jetty will also have to be abandoned, but this is of small consequence, because the jetty (as stated in Article III.) is useless in its present condition. Corresponding modifications would, of course, have to be made in the railway and in the water distribution. In the case of the latter there will be a saving of several kilometres of good iron piping.

PLAN II.



Sketch-plan of the Camaran lazaret in its actual condition. I. to VI., cordons for pilgrims 1, machinery building; 2 laboratory and "parloir"; 3, offices and residence of staff; 4, fresh-water reservoirs; 5, arishes for "gardes"; 6, director's bungalow; 7, store; 8, bungalow; 9, houses for employees; 10, vice-consul's house; 11, lady doctor's house; 12, coal store; 13, brick-fields, &c.; 14, Tomb of Sheikh Irakl; 15, hospital; 16, small pox sheds; 17, 18, and 19, first, second, and third disinfecting pavilions; 20, "hospital" of fifth camp; 21, "hospital" of sixth camp; 22, latrine jetties; ...... railway.

Each cordon is, as already stated, surrounded by a fence.

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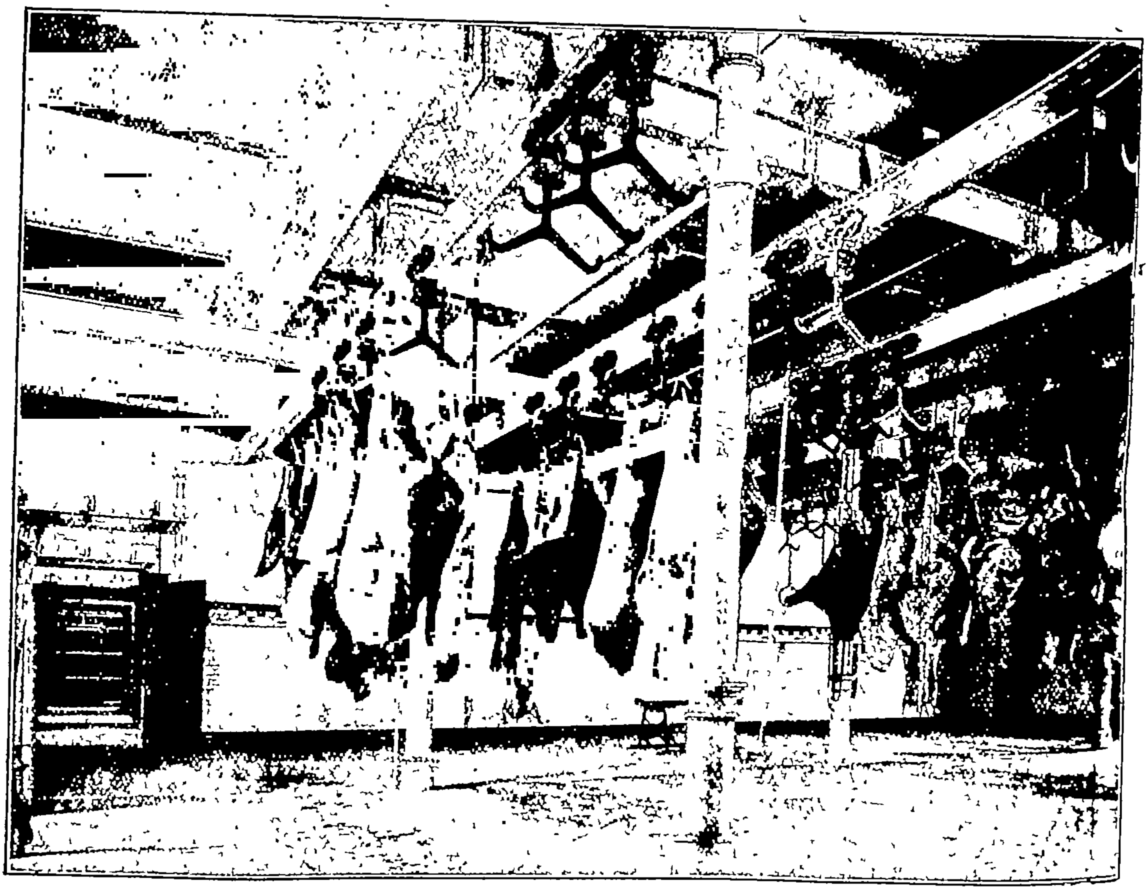
[1] Nos. I., II., and III. were published in THE LANCET of April 27th (p. [illegible]) and May 4th (p. 1251) and 11th (p. 1317), 1907, respectively.

should, of course, receive a sufficiently liberal honorarium to secure them from monetary worries and thus to enable them to devote their scientific attainments and their time solely to the public service.

At Basle in the slaughter hall for horned cattle there is room for dealing with 28 bullocks at one time. The animal is quietly conducted up to the spot where all is ready to deal with the carcass when the animal is killed. Then the Siegmund mask is applied to its forehead. This consists of a brass disc about four or five inches in diameter. When this is placed on a bullock's forehead so that the edges of the disc do not protrude on either side, the aperture in the middle is just over the centre of the brain. Above the disc there is a sort of pistol barrel which, however, expands in the shape of a cup before it reaches the disc. This is to provide space for the gases when the cartridge is fired. The bullet traverses the brain and generally reaches the spinal cord. Death is instantaneous. It never fails; the aim must be correct on account of the size and shape of the disc. Fulminating cotton—that is, the official Swiss smokeless gunpowder—is used and the explosion makes very little noise. There is no need to tether the animals or, as when the mallet is used, to hold the animal's head down in a favourable position. The slaughterer quietly and gently places the smooth disc on the unsuspecting animal's forehead and the next moment it falls as if struck by lightning. Only men employed and paid by the municipality are allowed to slaughter. They are not urged to work quickly but in every way to prevent any unnecessary suffering.

FIG. 3.



The Basle municipal abattoir. The cooling passages, where carcasses are kept 24 hours before delivery to the butchers or consignment to the cold storage rooms.

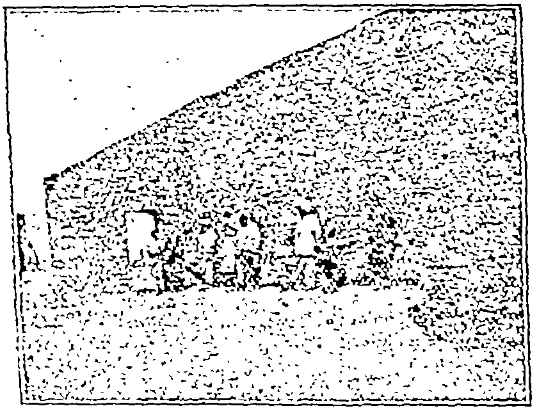
The Bruneau and other masks where a nail is employed have been found untrustworthy. They certainly do occasion some loss of time, for there is a great leather mask that has to be strapped across the animal's head. In the centre of this mask there is a loose nail held in a socket, and this is struck with a mallet so that it penetrates the brain just at the right spot. But this apparatus is liable to get dirty, then the nail fails to penetrate properly, and it cannot be easily withdrawn as the bone closes round it so that occasionally this method which is intended to insure a prompt and painless death proves a ghastly failure. Also it undoubtedly takes time to strap the mask on and to unstrap it afterwards. With the Siegmund pistol mask all this trouble is avoided and the animal falls just where its carcass is required to be. The flooring is of course absolutely watertight, being made with cemented flagstones. The walls all round and up to a considerable height are of bricks with porcelain surface cemented together and equally watertight and non-absorbent. Above there are a great multiplicity of rails and along the walls numerous hoists. It is only necessary to turn a handle and by an ingenious combination of cranks and cogwheels a heavy carcass can be promptly suspended. When ready the pulley runner and chain can be pushed along the overhead rails and the carcass goes from the slaughter hall to the cooling room. Close at hand are metallic receptacles for the offal and there are tables on wheels for any of the work which butchers have to do. Hose like a fire hose is ever ready for sluicing the floor, no dirt is allowed to remain, everything objectionable is at once cleared away. The most perfect cleanliness prevails throughout. On both sides there are windows but on the side where the sun shines a lozenge-shaped double glass pane is used. The space between the two panes is two to three inches wide. The advantage is that while letting the light through it excludes direct rays and heat. Thus a bright strong sunshine beating upon these windows barely raises the temperature 1° C.

Just outside this slaughter hall for the large cattle is what might be called the cooling passage which must not be confused with the cold storage or refrigerating department. The carcasses are allowed to hang for 24 hours in this passage. Here the temperature varies from 3 to 6° C. above zero. From this point an unbroken succession of overhead were put in it but in both of the last two pilgrim seasons it has remained wholly unoccupied.

Besides the objects already mentioned most of these cordons contain a small arish for the head-guard (*chef garde*) and in some is an arish used as a mosque. A *bacal*, or seller of groceries and other articles, is always established in each cordon, sometimes in a tent, sometimes in an empty arish or elsewhere. The Commission recommends the construction in each cordon of a small special arish for the *bacal* and his store.

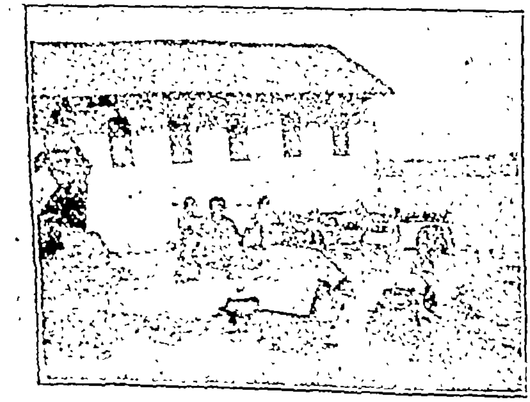
In each of the first four cordons there is a masonry structure intended to serve as a kitchen. It is composed of a wall 12 metres long and 5·60 metres high; at each end is another wall at right angles, so that the whole resembles a rather flattened capital H. Along both sides of the central wall are rows of brick fire-places. The arrangement is fairly well shown in Fig. 12. In the first cordon the whole structure has been roofed in and surrounded by matting walls. This kind of kitchen has many drawbacks; the enormously high middle wall gets intensely hot with the heat of the fires and of the sun; it is even worse in the first cordon, where the matting roofs and walls, though they shade from the sun, prevent free escape of the smoke. The Commission considers that there is, as a matter of fact, no need to build costly structures of any kind as kitchens. Most of the pilgrims carry with them small portable "kitchens," such as those seen in Fig. 13; those who have not are quite content to build a fire over a hole in the sand on two or three bricks, or in some other equally primitive but effective manner.

FIG. 12.



View of kitchen.

FIG. 13.



Pilgrims cooking their food on portable "kitchens."

The general plan of the lazaret.—Having studied the unit (the pilgrims' houses), and the arrangement of these units in cordons, it will be convenient now to speak of the general plan of the lazaret. It consists, as already stated, of the so-called "central" administrative buildings and of the six cordons. The former are not really central at all, being built at the southern extremity of the whole institution. This is regrettable in some ways, as it would be much easier to supervise the whole were the administrative blocks somewhere nearer the centre. But this would be almost impossible of attainment now. The present plan has been a natural growth; the offices had to be near the landing stages in the bay; the central reservoirs for the water-supplies had to be at the same time near the sea (for the intake) and on high land (to get sufficient pressure), and these conditions are only found on the northern shores of the bay. The present plan therefore (that is, six cordons in a row and the administrative buildings at one end) will be more or less retained. But the drawbacks inherent to such a plan will have to be diminished as much as possible. As the Commissioners state in their report, one extremity of the lazaret suffers from a grave anæmia, if not an irremediable gangrene, on account of its distance from the heart of the institution; and as the heart cannot be moved nearer the extremity the latter must be brought nearer the heart. In other words, the cordons must be concentrated. The manner in which this can be done has been already indicated. The fifth and sixth cordons must be abandoned, others being built between the third and fourth, and to the north of the latter, to take their places; and as a corollary the third disinfecting block must be transferred to the spot already indicated and the necessary modifications made in the landing-stages, railway, and water-supplies.

The lazaret as it will be after these works have been carried out is shown in Plan III. It will be seen that the general symmetry of the institution will in no way suffer, while in compactness and in every other respect it will gain greatly. The two new cordons will be of about the same dimensions as the existing first camp. It is proposed to arrange the new sixth cordon in a special manner for the reception of pilgrims from an actually infected ship.

In addition to the six cordons, so frequently mentioned above, the Commission proposes to have a seventh, to be reserved for arrivals by sambouk or other kind of sailing ship. These arrivals are rarely numerous and it will suffice to provide a small cordon capable of holding a maximum of 250 pilgrims. A good site exists a little to the south of the first cordon and it is here that the Commission proposes to set up the new cordon. Hitherto arrivals by sailing ships have been placed under tents and in no properly fenced-in cordon. This, which is, to say the least of it, irregular, will now be remedied.

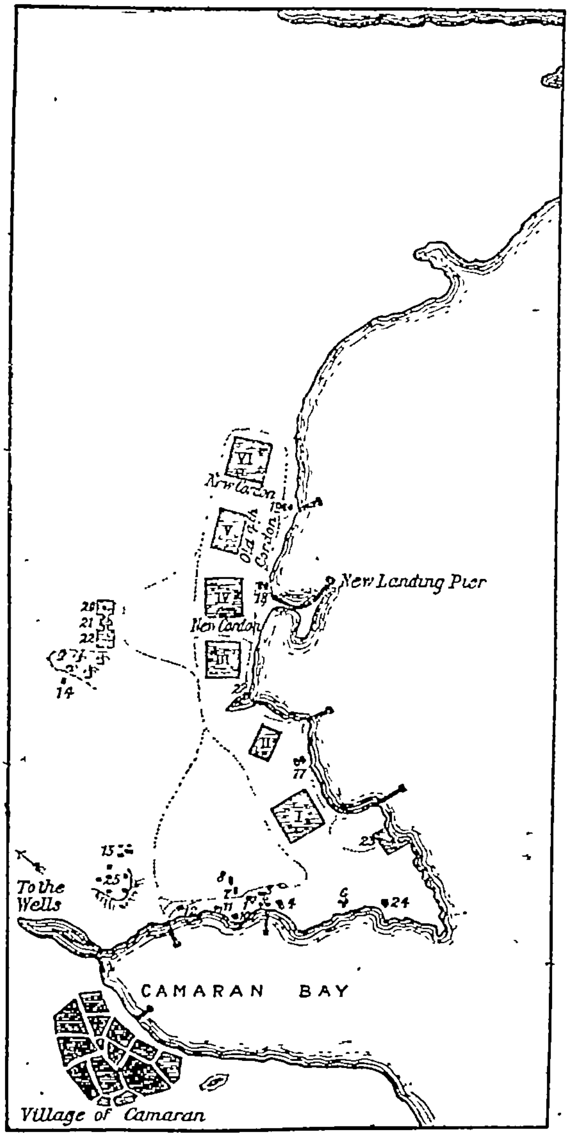
A word may be said here as to the numbers of ships and of pilgrims usually in quarantine at a time in Camaran. The Commission has prepared and annexed to its report five large diagrams, showing in a graphic manner the daily movement of the lazaret during each of the last five pilgrim seasons. In these diagrams there are thin vertical lines to show each day of the year, and the stay of every ship in the lazaret is shown by a horizontal thick line, beginning on the day of the ship's arrival and ending on the day of her departure. In this way it is possible to see at a glance how many ships were in quarantine simultaneously on any given date; and the number of pilgrims being inserted against each horizontal line a simple sum in addition suffices to show the total number of pilgrims in quarantine at any moment. From these diagrams it appears that there are very rarely more than six ships at Camaran at a time. Occasionally there have been seven, eight, and even nine, but when this has happened it has usually been for only a few hours and experience has shown that the six large cordons are practically sufficient. In the five years in question (in two of which the pilgrimage was exceptionally largely attended) the total number of pilgrims interned at the same time reached at one moment 6499. For most of the time the total rarely exceeded 5000 and was usually much less. With the six large cordons and the small one for arrivals by sambouk the lazaret will be able to hold 6550 pilgrims, as shown in the following table:—

First cordon	1200	pilgrims.
Second cordon	720	"
Third cordon	1200	"
Fourth (new) cordon	1200	"
Fifth (actual fourth) cordon	780	"
Sixth (new) cordon	1200	"
Small cordon for arrivals by sambouk ...	250	"
Total	6550	

The present year's pilgrimage is likely to be one of the

It is composed of thin wooden laths and is of the most unsubstantial character. In some camps (notably the fifth and sixth) it has tumbled down in parts or disappeared and not been replaced. It is clear that such a barrier has no real effect in keeping the pilgrims inside their cordons. All it can do is to serve as an indication to the pilgrims of the limits to which they are confined. Most of them it is probable have little desire to go beyond those limits; they are strangers to the island and to its native inhabitants and it is said that they rarely, if ever, try to escape from their camp. But it is certain that the "gardes" engaged in the Camaran village and interned with the pilgrims can, and it is probable that they do, communicate freely with their friends in the village. Moreover, should cholera or plague break out in a cordon there would be considerable temptation to the pilgrims to try to escape to other cordons. In any case "isolation" cannot be regarded as guaranteed with the present flimsy fencing; and the Commission proposes to surround each of the cordons at Camaran with a fencing similar to that adopted at Tor. This is composed of strong galvanised iron wire netting two and a half metres high, supported on wooden posts fixed in the sand; above the netting there are two or three rows of barbed wire and at its base a series of wooden planks running all round the cordon to prevent the pilgrims digging in the sand and creeping under the lower edge of the netting. This form of barrier is said to have given very satisfactory results at Tor.

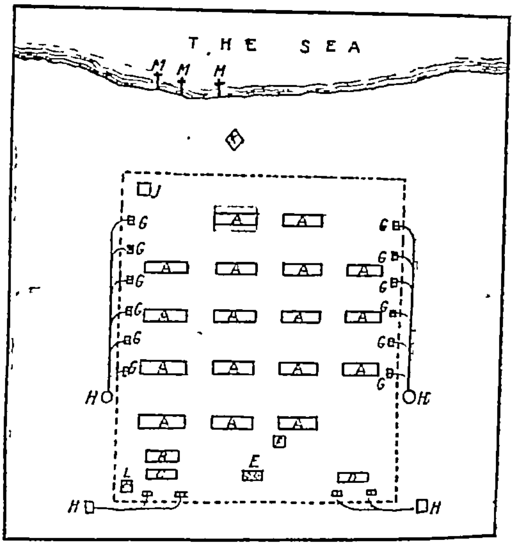
PLAN III.



Sketch-plan of the Camaran lazaret as modified by the proposals of the Commission. The figures indicate the same buildings as in the preceding plan, with the following exceptions: 19, third disinfecting pavilion on its new site; 20, inclosure for hospital for infectious diseases; 21, inclosure for small disinfecting pavilion; 22, inclosure for hospital for ordinary diseases; 23, new cordon for arrivals by sambouk; 24, new house for medical staff; 25, new houses for employees.

The six cordons vary greatly in size. The first cordon is 167 by 150 metres and thus contains 25,050 square metres of surface. It lies on the shores of a bay, quite close to the sea, and but little raised above it. The ground plan of this cordon is shown in the accompanying sketch (Plan IV.). It contains 16 old-type arishes and one new type; the three "pucca" houses mentioned above; kitchen; 16 huts, with two water-closets in each; two fresh-water cisterns; salt-water tank or tower (as in all the other cordons), &c. There is room for three more arishes, bringing the total to 20, which would enable this cordon to lodge up to 1200 pilgrims.

PLAN IV.



The Camaran lazaret. Plan of the first cordon. A A, Arishes. B, Sorting-house. C, Medical officer's house. D, Hospital. E, Cisterns. F, Kitchen. G G, Huts for w.c.'s. H H, Sewer-ditches. J, Superintendent's arish. K, Mosque. L, Water-tower.

The second cordon measures 150 by 104 metres and has 15,600 square metres of surface. It is situated on sloping ground, rising at its highest to several metres above sea level. It contains ten old-type arishes; two more could be added, which would enable this cordon to hold 720 pilgrims.

The third cordon measures 170 by 157 metres and has 26,690 square metres of surface. Like the first camp, it lies very low and is liable to inundation. It contains 19 arishes (18 old type and 1 new type); a twentieth could be added and this cordon could then lodge 1200 pilgrims.

The fourth cordon (482 metres to the north of the third) is 152 metres long and 130 wide, its superficial area being thus 19,760 square metres. It lies some 220 metres from the sea, on an elevated plateau which extends from here to the northern limit of the lazaret. It contains 10 arishes, all new type; two more could be added, and, as this cordon contains also the "specimen house" above described, it could lodge in all 780 pilgrims.

The fifth cordon lies no less than 772 metres to the north of the fourth; its length is 505 metres, its breadth 186, and its superficial area is thus 93,930 square metres. It is simply a vast area of desert, inclosed by a partly broken-down fence, and containing six old arishes and four new ones.

The sixth cordon is even vaster than the fifth, from which it is separated by a distance of 668 metres. It is 360 metres long by 330 wide, which gives a surface of 118,800 square metres. In this great square of desert there are no arishes; indeed, nothing is to be seen save the doctor's house and house of distinction, and 16 huts for water-closets. The "hospital" has been built on a cape 300 metres outside the camp. The fencing and the railway which once ran round the cordon are in a sad state of decay. This camp is almost never used; once in 1902–03 and once in 1903–04 pilgrims ie case of a working man with a family dependent on his xertions for a livelihood it cannot be wondered at that he dread day is too often postponed.—Mr. William rosfield (the vice-chairman) drew attention to the fact hat last year's tobacco bill for aged inmates at the iverpool workhouse amounted to £906, and he expressed he fear that this liberality on the part of the workhouse ommittee in the matter of the soothing weed had a tendency to attract many old men to the workhouse who otherwise would not be anxious to seek refuge within its walls. As only inmates of over the age of 60 years are entitled to the luxury Mr. Crosfield's view in the matter failed to meet with the endorsement of his fellow members.

University of Liverpool: New Lectureships.

Dr. W. H. Broad has been appointed lecturer in physical anthropology and Mr. J. K. Catterson Smith assistant lecturer and demonstrator in electro-technics.

Lancashire County Council; Health of the County; The Midwives Act; Extraordinary Food for Infants.

The chairman of the public health committee said that the death-rate of the county was higher than it had been for some time in consequence of the prevalence of respiratory diseases and influenza. 12 cases of small-pox had been notified during the quarter, against 23 in the previous quarter. The county had not been free from small-pox for two years and he thought that it was time it was. Five deaths had occurred from "spotted" fever, but judging from the report of the medical officer there was no reason for fear on that account. The report of the Midwives Act committee showed that the number of certified midwives on the county register on March 31st was 1081. The number of women qualified by examination was gradually increasing. Several cases of negligence or misconduct had occurred during the past quarter and the committee had instructed the medical officer of health to communicate with the midwives concerned drawing their attention to the necessity of a strict compliance with the rules of the Central Midwives' Board. Attention was drawn to the appalling ignorance prevailing regarding the feeding of infants. There was one case in which an infant, one month old, was fed on beefsteak and liver. The child died. Another infant of nine weeks was given black-pudding and whisky and a week later rabbit-pie, and still survived, "a monument of the inherent strength of the British constitution."

Health of Liverpool: Not Free from Small-pox.

The death-rate last week was 19·4 per 1000, as against 27 per 1000 a year ago. The fall in the death-rate appears to be due to fewer cases of measles and whooping-cough. There were 541 cases of infectious diseases in the corporation, including seven cases of small-pox. As Liverpool is probably the best vaccinated city in the kingdom there need be no cause for alarm on account of the occurrence of those cases.

Appointments at Chester Infirmary.

At a meeting of the election committee of the infirmary held last week Dr. E. Cyril Dobie was appointed honorary assistant surgeon and Dr. A. Douglas Hamilton, honorary assistant physician.

May 14th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

A Proposed Joint Appointment of Medical Officer of Health in Monmouthshire.

A CONFERENCE has been called of representatives from the urban district councils of Abercarn, Abertillery, Bedwellty, Ebbw Vale, Nantyglo and Blaina, Tredegar, and Risca in Monmouthshire, and of Brynmawr in Breconshire to consider the practicability of appointing a medical officer of health who should act jointly for these districts which adjoin each other and are situated on the western boundary of Monmouthshire and in Breconshire. The population of these districts at the last census was 114,000 and it is now about 140,000. The area is 46,000 acres. The combined salaries of the present medical officers of health amount to just over £400 a year. They are all in private practice. In the event of a combination being effected it is to be hoped that the Local Government Board will not sanction the payment of a commencing annual salary of less than £600, and that an adequate sum will be given for expenses caused by travelling about the district.

Sanitary Inspection in Bridgend.

It was not until the ravages of the typhoid fever epidemic in 1905 had emphasised the necessity that the Bridgend urban district council acted upon the advice of its medical officer of health, Mr. Wyndham Randall, and appointed an assistant inspector of nuisances, who was instructed to make systematic examinations of house drains. The justification for his appointment is seen in the fact that out of 605 houses inspected notices were served with respect to unsatisfactory drainage in 505. The district council will be well advised if it makes this appointment a permanent one. It ought not to be lulled into a sense of false security owing to the very favourable records for the year 1906. In that year there were only four cases of typhoid fever, and these were all non-fatal, compared with 117 and 16 deaths in 1905. Bridgend has a population of about 7000 persons.

Unqualified Dental Practice in Cardiff.

Cardiff can hardly be described as a happy hunting-ground for unqualified dentists. A few months ago one of these gentlemen was fined by the stipendiary magistrate for holding himself out as a qualified practitioner. The magistrate held that as the defendant in the case advertised that he extracted teeth painlessly he therefore ascribed to himself very special skill and the general public would consider him to be regularly qualified to practise. Quite recently another unqualified practitioner was sued in the county court for damages. The patient who brought the action asserted that several of her teeth had been so unskilfully extracted that she had not only already suffered great pain and inconvenience but would probably continue to do so for some time. The county court judge gave her damages to the amount of £25. A very unsatisfactory feature in this case was the admission by a young woman that she was a paid tout and had introduced the patient to the defendant.

Sewage of Bath.

The Bath corporation has very prudently decided to admit that the sewage of the city enters the river Avon and to consider the best method of dealing with the sewage in order to prevent the pollution of the river. The threatened proceedings of the county council under the Rivers Pollution Act will therefore be postponed indefinitely.

Insanity in Herefordshire.

The spring meeting of the south-western division of the Medico-Psychological Association was held at the Hereford County Asylum, when the medical superintendent of that institution, Mr. C. S. Morrison, read a most instructive paper upon the increase of insanity in agricultural districts, with special reference to the county of Hereford. After commenting upon the large amount of migration from the county, leaving as stay-at homes persons characterised by inertia, apathy, and but little capacity for sustained effort, he pointed out that Herefordshire held a unique position as regards the marriage-rate, for in 30 years this rate had remained stationary, whereas in all the counties of England and Wales except four it had fallen. In England and Wales the legitimate birth-rate had fallen from 292 per 1000 married women at conceptive ages in 1870 to 223 per 1000 in 1905. In Herefordshire during the same periods the legitimate birth-rate had fallen from 285 per 1000 to 223 per 1000, showing in conjunction with the unaltered marriage-rate that the fertility-rate in Herefordshire was considerably below that in other parts of the country. Reference was also made by Mr. Morrison to the low rate of infantile mortality in Herefordshire, which had fallen from 131 per 1000 births in 1870 to 85 per 1000 in 1905, and he stated that the Commissioners in Lunacy for Scotland had found by an analysis of the figures for the census year 1901 that the greatest number of congenitally deficient persons received into the district asylums of Scotland came from rural areas with the lowest infantile death-rate. The same condition has been found in Herefordshire, where the proportion of persons of unsound mind has risen from 35 per 10,000 of the population in 1871 to 55 per 10,000 in 1905. In England and Wales during the same period there was a rise from 21 per 10,000 to 32 per 10,000.

Royal United Hospital, Bath.

At a meeting of the committee of the Royal United Hospital held on May 6th it was stated that the late Dr. Thomas Jarvis Bennett, formerly of Tunbridge Wells, had most numerously attended for many years past owing to the removal of the five days' preliminary observation of Indian pilgrims before sailing from Bombay. It is possible, therefore, that this total may be slightly exceeded; in that event, the excess number of pilgrims will have to be placed under tents.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

SEVERAL valuable gifts and offers which have recently been made to the University were notified and accepted at a recent meeting of the council. The botanical museum has been enriched by the collection of fungi made by Dr. Charles B. Plowright of King's Lynn, which comprises between 4000 and 5000 species. This gift was offered by some "Friends of the University." The Rev. C. Owen Pickard, Cambridge, has presented a valuable collection of British spiders to the zoological museum. The collection includes 300 species of true spiders and a number of other arachnids. The zoological museum has also received from Mr. George Copely a collection of corals and shells from the Philippine Islands. This collection contains a large number of important, valuable, and rare specimens. Sir John Holder has offered £1000 to be used for the purpose of filling in, with stained glass, the fine window at the south end of the great hall in the new buildings; and the contractor for the Bournbrook Buildings, Mr. Thomas Rowbotham, has offered to provide a clock and chimes for the great tower which is in the process of erection. It is probable that the clock and chimes will cost about £2000.

The Ingleby Lectures.

Dr. Thomas Wilson, who has been appointed Ingleby lecturer for the year, delivered the first of his lectures on May 9th. He pointed out that the lectures were established in 1876 in connexion with the Queen's College and were intended to promote the advance of obstetric surgery and medicine, which were the branches of medical science with which Dr. Ingleby was intimately associated. He drew attention to the sound judgment and close personal observations shown in Dr. Ingleby's writings and pointed out that he was the first medical man to practise obstetric surgery in Birmingham. Dr. Wilson chose as the subject of his lectures Inflammations of the Uterine Appendages and he dealt with them mainly from the point of view of his personal experience at the General Hospital and in private practice. He classified the inflammatory affections of the organs mentioned in two groups, the catarrhal and the purulent, and he laid stress on the insidious nature of the onset in many cases, and more especially when it was associated with scarlet fever infection. He also drew attention to the long periods of quiescence not uncommonly associated with collections of pus in the female generative appendages, and he pointed out that the pus in these quiescent conditions was usually sterile. In his second lecture he is to deal with diagnosis and treatment.

Queen's College.

Queen's College, which has passed through many vicissitudes, is to be closed as an educational institution, at all events for a time. This is much to be regretted, for the institution has had a long career and it has been the means by which much good work has been done. It was initiated by a Birmingham surgeon, Mr. William Sands Cox, who induced his medical friends to establish a medical school. This was first housed in Temple-row and afterwards in Snow-hill, and by the efforts of the Rev. Dr. Warneford a theological faculty was established. In 1843 the foundation-stone of a new home in Paradise-street was laid and in 1845 a Royal Charter was granted to the institution under its present name. Its fortunes varied, and in 1892 the medical school was removed to Mason's College whilst Queen's College became a purely theological institution. A few years ago it was decided to reconstruct the college at a considerable cost and the present building was opened about two years ago. When the reconstruction was carried out it was hoped that the rents of the various sets of rooms and offices would form a valuable source of income; unfortunately, this hope has been delusive; and as the income has proved to be insufficient it is stated that the council has decided to close the educational portion of the college, and it is suggested that a considerable portion of the building should be let to the University as a residential hostel for students. This will probably be done and the University will thus have the opportunity of gaining experience in the management of a hostel for men before it decides to erect a building specially for the purpose.

The Open Spaces Association.

This association, which has already done much excellent work in securing air spaces for our somewhat crowded city, is now making an attempt to acquire 20 acres of the well-known "black patch" which lies on the boundaries of Birmingham and Smethwick. If the land is not secured now there is no doubt that it will fall into the hands of the builder and be covered with as many houses as the local by-laws will allow. It is to be hoped, therefore, that the association will be able to obtain the money that it requires, which appears to be a sum of £9000, for it is said that the owners, Messrs. Tangye and Messrs. Pilkington, will sell the land which the association wants for £10,000 and that each firm will give £500 towards the fund for purchase. If the association succeeds in acquiring the land it is probable that part of it will be used as a park, part as a playground, and some portion may be used for allotments.

Annual Report of the Public Analyst.

On the whole the report of Mr. Liverseege for the year 1906 cannot be considered satisfactory, for it appears that adulteration increased as compared with the previous year. The number of samples examined under the Sale of Food and Drugs Act was 1480 and of these 2·3 per cent. were adulterated with preservatives only, and 11 per cent. in other ways. The increasing use of adulterants affected milk as well as other foods, and of the samples taken 5 per cent. were found to be adulterated with preservatives, as compared with 3 per cent. in the previous year, the preservatives used being boric acid and formic aldehyde. It is possible that the new system of taking repeated samples has had something to do with the discovery of a larger percentage of cases of adulteration, for it is stated that in some shops the stranger purchasing butter receives butter, whilst margarine is given to the regular customers.

Bequests to Medical Charities.

By the will of the late Miss Sarah Maria Stokes of The Hawthorns, Edgbaston, £7450 are devoted to medical charities in Birmingham. Four hospitals are to receive £1000 each—i.e., the General, the Queen's, the General Institution for the Blind, and the Ear and Throat Hospital. Six will receive £500 each—the Children's Hospital, the Women's Hospital, the Eye Hospital, the Orthopædic Hospital, the General Dispensary, and the Birmingham and Midland Counties Idiot Asylum. The Royal Institution for the Deaf and Dumb is bequeathed £250 and the Skin and Lock Hospital £200. The General Hospital, the Queen's Hospital, and the Children's Hospital also benefit by the will of the late Mr. Alfred Hill of Hagley-road, under which they receive £50 each.

May 14th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Sanatorium for Tuberculosis at Heswall; Sceptical Guardians; the Paupers' Tobacco.

THE select vestry of the parish of Liverpool, at its meeting on May 7th, appointed four representatives upon the committee of the Liverpool, West Derby, and Toxteth Park joint hospital for tuberculous patients at Heswall. It appears that a number of the members of the vestry are sceptical as to the value of the benefits of the hospital. They affirm, and not without reason, that many of the patients are in the last stages of the disease before seeking admission to the institution. The experiment is a decidedly costly one and is a charge on the parishes to the tune of £2 8*s*. 3½*d*. per head per week. If the patients cannot be induced to enter the sanatorium in the early stage of the disease it seems obvious that it is a waste of the rate-payers' money to maintain an institution which hitherto has not been an unqualified success. The work might probably be of a more hopeful character if the sufferers applied for admission at a comparatively early stage of the disease. In upon Dr. Windle, President of the Queen's College, Cork, and upon the Right Rev. Monsignor Mannix, President of St. Patrick's College, Maynooth

Limerick District Lunatic Asylum.

At a meeting of the board of the Limerick Lunatic Asylum held on May 8th, Mr. E. D. O'Neill, resident medical superintendent, furnished his report of the working of the institution to the close of last year. There had been an increase in the number of patients, the highest number having reached 670, while the accommodation was intended for 550. He considered the increase largely due to intemperance and to the condition of the houses of the working population. It was unanimously agreed to have the report printed and circulated.

Royal College of Physicians of Ireland.

The annual presidential dinner of the Royal College of Physicians was held on May 9th, Dr. Joseph M. Redmond, the President, being in the chair. The Lord Lieutenant was present with many other distinguished guests, and the toast of "The Guests" was responded to by the Master of the Rolls and the Rev. William Delany, S.J.

House Sanitation in Belfast.

The deplorable condition of many houses in Belfast, as demonstrated in evidence submitted to the Health Commission now sitting as well as by the personal observations made by the members of that inquiry, has at last roused the public health committee, and at the weekly meeting of the latter body on May 9th it was decided, after hearing a report on the matter from the medical officer of health and from the chief officer of the house-cleansing department, to appoint a subcommittee to take into consideration the desirability of adopting the cleansing of houses fortnightly and to prepare by-laws and to advise as to the provision of ashbins and other matters associated therewith. Lord Shaftesbury (the Lord Mayor) raised the question as to the state of many of the back passages and said, in his opinion, it was most important that these should be seen to and put into such a condition as would enable them to be not only thoroughly cleansed but flushed regularly with a hose-pipe. This recommendation was then added to the resolution. It is deplorable to think that in Belfast it was not until 1902 that the systematic removal of refuse began. Previously to that the householders had actually to pay 1s. per load to have this done, and there can be no doubt that the very existence of ashpits (not frequently enough cleaned out), dirty back passages, and houses not properly cut off from the ground air and moisture has in the past been an immense cause of disease. By placing these facts clearly before the public the Health Commission has done immense good and has galvanised the health committee into facing problems which have been settled long ago in English and Scotch towns but which otherwise would never have been touched in Belfast.

Belfast Health Commission.

The Health Commission resumed its sittings in Belfast on May 13th when the assistant city surveyor and the executive sanitary officer were examined. The evidence of the latter showed how deplorable is the knowledge of the public health authorities as to insanitary houses in Belfast, for when the chairman of the Health Commission asked questions in reference to such dwellings actually inspected by members of the Commission the witness said that he had no knowledge of them or they had not been reported, whereupon the chairman said: "I want to impress upon you that there is no chance of remedying these evils if you have no knowledge of them, and if you have no knowledge of them how can the public health committee have knowledge of them? It seems to me that the whole organisation of your department requires reconsideration." Witness also said—in reply to the question, "What duties are there in which you do not regard yourself as subordinate to the medical superintendent officer of health?"—"In the laying of drains or describing how that work should be done I would not consult the medical superintendent officer of health," and he also said that there were some matters connected with public health in which he thought he was better informed than the medical superintendent officer of health. He gave the opinion that the medical officer of health should have his time more taken up with the stamping out of infectious disease, whereupon one of the Commissioners asked, "Is not one of the ways to stamp out infectious disease to keep the houses healthy?" to which he was obliged to answer in the affirmative. Such evidence clearly shows the value of one of the resolutions passed by the Ulster Medical Society, "That the medical officer of health should be sole head of a department in charge of the health of the city in all its branches."

The Tuberculosis Problem in Belfast.

In a new city like Belfast, where, as reported to the Health Commission, from 1895 to 1906 (that is, during 12 years) 12,562 people died from pulmonary tuberculosis, making a total of over 17,000 deaths from tuberculosis when added to those caused by the other forms of the disease, it is of the utmost importance that a clearly defined and well-thought-out plan for dealing with the question should be brought before the public, and one of the objects of the commission of experts at present sitting in Belfast is to suggest measures in order to solve this most pressing problem. Instead, however, of waiting a few months until the Commission issues its report, it appears that the public health committee of Belfast, entirely on its own initiative, is about to rush on a scheme, for at a meeting of the city corporation held on May 1st it was announced that a subcommittee of the public health committee recommended the taking of a house in Great Victoria-street for the purpose of a tuberculosis dispensary—in other words, the establishment of a central dispensary in Belfast with a medical officer whose duties would be to deal solely with consumptive patients. Now, as pointed out by a correspondent ("Watchman") in the Belfast papers, a dispensary is only one element in the solution of the tuberculosis problem and by itself is of very little use unless some measures are taken to deal with the patients who will go there anxious to have hospital treatment. Up to the present, though frequently pressed by the Irish Local Government Board, the Belfast public health committee has not erected a sanatorium and the negotiations which were going on between the committee and the Forster Green Hospital for Consumption have so far ended in nothing, so that to open a tuberculosis dispensary without arranging beforehand what will be done with the early and with the advanced cases is "futile" (as stated by a writer in the Belfast daily press), "as much so as was the adoption of the Act for notifying infectious diseases without having first built a fever hospital." But, further, the public health committee has never even settled the question as to whether pulmonary tuberculosis should be made a notifiable disease (voluntary or compulsory), and it has never thought it worth its while to consult the members of the medical societies who would try to guide the committee and keep it right in a matter of such great public importance to the city. The fact of the matter is, no harm can accrue if the public health authorities will only wait a few months until the Commission at present sitting in Belfast—which has had such revelations brought before it in part by evidence and in part also by its own personal investigations—has made its report on this and other problems. To attempt to rush things now before this Commission has had time to report will only complicate matters afterwards, will arouse the suspicion of the public, and will still more alienate the medical profession who have so little confidence in the present administrative capacity or specialised knowledge of the public health authorities of the city. It is to be hoped that the Local Government Board will refuse to sanction any plan put forward by the Belfast public health committee until it is shown that it is one which will grapple with all sides of a confessedly difficult problem, as well as conform to its suggestion that the public health authorities should have an advisory committee to guide them in trying to solve the problem of tuberculosis.

May 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Cost of Maintenance of the Anti-tuberculous Department founded by Dr. Albert Robin at the Beaujon Hospital.

Dr. Robin has kindly supplied some supplementary information concerning the expense of his anti-tuberculous scheme, an account of which recently appeared in THE LANCET. In 1905 the cost of drugs, including gelatin, had risen to 693 francs for 4133 attendances, or 0·167 franc for each attendance; in 1906 it reached 9775 francs for 5371 bequeathed the whole of his estate, subject to certain legacies and the life interest of his wife, to the institution. The chairman stated that this would amount to £20,000, and Dr. Bennett directed that the legacy should be devoted to the augmentation of the permanent endowment of the hospital. It was mentioned that this gift will in no way affect the effort now being made by the Mayor of Bath to extinguish the present debt of £6000 owed by the institution.

The Workmen's Compensation Act.

At the Frome (Somerset) county court, before his honour Judge Gwynne James, sitting as arbitrator, a pork butcher's assistant recently made a claim against his employer under the Workmen's Compensation Act. Evidence showed that in October, 1906, the applicant sustained a strain while lifting a heavy ham, and that in consequence of this he obtained medical advice and shortly afterwards was admitted as an in-patient to the Frome Hospital. Medical evidence showed that when the applicant was at that institution the diagnosis was made that it was a doubtful case of traumatic subclavian aneurysm. Evidence was also given by the medical witnesses who examined the applicant on April 24th and formed the opinion that he had no aneurysm but was suffering from nervous debility. After a hearing which lasted four hours his honour decided in favour of the applicant.

Bristol General Hospital.

A public meeting was held at the Bristol Guildhall on May 7th, under the presidency of the Lord Mayor, for the purpose of raising £18,000 for the greatly needed improvements which are being made at the Bristol General Hospital. It was announced that £13,116 have been already promised and it is hoped that the remainder, about £5000, will be obtained shortly.

May 13th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Scottish Association of Medical Women.

A SPECIAL meeting of the Scottish Association of Medical Women was held in Edinburgh on May 11th, when a discussion took place on the remuneration of posts held by medical women. In the course of the discussion various cases were cited in which medical women were holding posts at insufficient salaries, and it was pointed out that there was a tendency on the part of public bodies as well as among private practitioners when opening posts to medical women to fix the rate of remuneration at a lower level than would be considered sufficient in the case of medical men. After considerable discussion a motion was carried to the effect that in the opinion of the association it was undesirable that women should accept posts at a lower salary than that offered to men previously holding the same, and that in the case of new posts the association considered it detrimental to the interests of the profession that such posts should be taken by medical women at salaries which would not be accepted by men. A discussion also took place on the desirability of forming a central information bureau for the benefit of women graduates in medicine and it was decided to appoint a committee to consider whether such a scheme was practicable.

Memorial to Principal Story.

At a meeting of the subscribers to the memorial to the late Principal Story held last week it was reported that the fund amounted to £10,000. It was recommended that in accordance with the strongly expressed wish of the relatives a memorial window should be erected in the Bute Hall at the University of Glasgow. The recommendation was approved by the meeting and it was agreed that the balance of the subscriptions should be handed to Mrs. Story and the Misses Story.

An Interesting Case of Anthrax.

A case of anthrax has occurred at Tulliallan which is giving arise to much interest in veterinary and medical circles. The animal involved was a cow which was found on post-mortem examination to have died from anthrax. As the cow was suckling a calf the effect of the mother's milk on the youngster is to be watched closely, in the hope of ascertaining the effect of an anthrax-infected cow's milk.

Cerebro-spinal Fever.

Two cases of suspected "spotted fever" have occurred at New Elgin. The patients are two young girls, aged ten and 17 years respectively. A case has occurred at Perth Barracks, the patient being a young man who only five weeks ago joined the army. The soldier, who belongs to Montrose, has been removed to the fever hospital, where he lies in a critical condition. A fresh outbreak has occurred at Forfar, two cases and one suspected case having been notified to the authorities. One of these, a young lad of 14 years, has since died in the County Hospital. On May 10th a boy from Cellardyke was admitted into the district infectious diseases hospital at Overstone, East Fife, suffering from "spotted fever." This is the first case that has happened in this district. Three deaths from cerebro-spinal fever have occurred in Dundee Royal Infirmary. The first case was that of a young ploughman hailing from Forfar. This patient had been attending at the out-department for some time, and towards the end of last week reported himself as usual. He then proceeded to visit a relative in Broughty Ferry where he was seized with illness and developed the symptoms of the disease. In the other two cases the victims were children. The distinctive organisms of the disease were found in all three cases.

Aberdeen Infirmary: Handsome Gift from Lord Mountstephen.

The Aberdeen Infirmary has again benefited by the generosity of Lord Mountstephen to the extent of £10,000. In 1902 he gave securities yielding £1000 annually, and to that this gift is supplementary in so far as an opportunity having arisen of extending that investment on favourable terms he has most generously provided the necessary funds. The managers are thus enabled to take advantage of the situation and the thanks of the community are due to the kindly benefactor of this useful institution.

A Remarkable Outbreak of Tuberculous Disease in a Highland Family.

Dr. John Macdonald, county medical officer of health of Inverness-shire, in his annual report draws attention to a remarkable outbreak of tuberculous disease which took place in the family of a crofter at Tarbert, Morar. This man had lived in the same house for 21 years. His household consisted of himself, his wife, and 12 children, whose ages ranged from two to 21 years. In April, 1906, the eldest girl, aged 21 years, came home from service with a suppurating finger, developed pulmonary symptoms, and died on May 26th from tuberculous meningitis. In November of last year, another daughter, aged 14 years, was found to be suffering from pulmonary tuberculosis. She died on Jan. 8th of this year. During the time that this girl was ill it was found that the father was suffering from suspicious lung trouble, that the mother was suffering from tuberculous disease of the ankle-joint and possibly of tuberculous disease of the abdomen, and that two other daughters, aged 20 and 10 years respectfully, and the baby had distinct signs of pulmonary tuberculosis. The baby died on Jan. 3rd, and the daughter aged ten years died on Jan. 10th, after an illness of three weeks. The mother was removed to the Western Infirmary, Glasgow, where she died. The father died at the end of February. Two other members of the family have developed pulmonary tuberculosis. There was no family history of consumption, no ill-health had occurred previously to April, 1906, and there was very little expectoration in any of the cases. The house consisted of two apartments, with stone walls, thatched roof, and clay floors; it was very damp but was kept in excellent condition.

May 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

THE Senate of the Royal University met on May 9th when the warrant under the Royal Sign Manual was read appointing Mr. Michael Finucane, M.A., C.S.I., to be a member of the Senate. On the motion of Dr. B. C. A. Windle, seconded by Dr. R. W. Leslie, it was unanimously agreed to re-elect Sir Christopher Nixon, Bart., as the representative of the University on the General Medical Council. On the unanimous recommendation of the standing committee it was resolved to confer the degree of LL.D. *honoris causa* racheotomies with a mortality of 46 per cent. The high figures for the tracheotomy mortality illustrated well the bad condition of the children who had to be operated upon. Among those classified as dangerously ill 287 children (44 per cent.) showed grave symptoms of stenosis of the upper air passages and were treated only with the serum and the steam chamber. The latter was a room into which all the intubated children were also taken, for the high percentage of moisture in the air was very beneficial in keeping the expectoration liquid and preventing the formation of dry masses in the trachea. Not a single case of so-called septic diphtheria made its appearance when the serum was employed. This very grave condition used formerly to be observed in 3 per cent. of all cases. As regards the diagnosis, it was better not to wait in doubtful cases until the result of the microscopic examination was obtainable, but to inject prophylactically. Furthermore, it must be kept in mind that there were plenty of instances known in which numerous Löffler bacilli were present without any clinical symptoms of diphtheria, whilst, on the other hand, negative results of the bacteriological examination were compatible with urgent symptoms of diphtheria. The rash after injection appeared mostly on the tenth day and was generally quite harmless; sometimes there was general malaise which soon passed away. As a rule 1500 units of antitoxin were sufficient the first time, but in very urgent cases from 2500 to 3000 units might be used. Paresis after injection was due not to the serum but to the diphtheritic toxin, and there was no case on record where death could be actually traced to the serum. As regards prophylactic injections Dr. Bittner has found that it was necessary that the friends of the little patients, their family, and all other children coming into close contact with them should receive injections, otherwise the patients might spread the disease, even after discharge from the hospital. For this reason 246 children were injected prophylactically during five years without a single case of infection occurring amongst them. A control experiment was made with three boys belonging to different families. These three boys had seven brothers and sisters who were not injected prophylactically and the result was that after the discharge of the patients all the other seven children contracted diphtheria within a short time. Furthermore, Dr. Bittner has made it a routine practice to inject a prophylactic dose in every case of operation for enlarged tonsils or for adenoids, since he has found that the reaction after the operation is markedly lessened and the after-effects of the operation, such as pyrexia and loss of flesh, are prevented. He thought that often in children the reaction after the operation was really due to a mild attack of diphtheria.

Death of Professor von Mosetig-Moorhof.

Professor von Mosetig-Moorhof, the distinguished surgeon, whose name became known all over the world by his introduction of iodoform for the treatment of wounds, met with his death in tragic circumstances a short time ago. He had of late been troubled by attacks of heart spasm and giddiness, and was in the habit of walking on the banks of the Danube, where the cool air and the stillness seem to have had a soothing effect on his nerves. The fatal accident appears to have occurred during one of his attacks of giddiness. He was seen to go down to the margin of the river where he wetted his forehead with water and then suddenly disappeared in the current. At that spot the river is over 500 yards wide and the current is strong. Several endeavours were made to save him but without success and his body has not yet been recovered. Although 69 years of age he was in fairly good health and his unexpected death came as a shock to his numerous friends and pupils. Of recent years his name was much mentioned on account of the "iodoform-plombe," as he called it—namely, a method of filling cavities in bones with iodoform, especially in cases of tuberculous disease; it has often given successful results and has been employed by rhinologists and other surgeons for disease of the antrum of Highmore. Professor von Mosetig-Moorhof had served in three wars as chief surgeon. He had, therefore, very large experience of this branch of practice and military surgery was with him a favourite subject upon which to lecture. The honorary posts held by the deceased were very numerous and his contributions to medical literature were highly esteemed. Apart from his professional work in the hospital, he was a very successful surgeon whose services were in much request.

Paying Wards in the General Hospitals.

The managing board of the Vienna hospitals, in the hope of replenishing the funds of these institutions, has devised a new scheme which from its nature is strenuously opposed by nearly 90 per cent. of the practitioners of the city. Judging, however, from other precedents it is to be expected that this opposition will only serve to confirm the board in its opinion. The intention is that a portion of the present general wards should be set apart for paying patients, to whom a charge would be made of probably from 5*s.* to 8*s.* a day. So far nobody would find any fault with the scheme. But the general practitioner originally in attendance is to be excluded from continuing to act as the medical adviser of the patient once the latter has obtained admission to one of these paying wards. This would mean a further diminution of the practitioner's source of income and would only serve to improve the position of the professors or directors of the clinic, who would alone be entitled to visit this class of patients in the hospital wards. A firm stand has been made by the Medical Council and all medical corporations on this point and vigorous protests have been sent to the managing board. Up to the present time, however, no result is visible.

Marmorek's Serum in Pulmonary Tuberculosis.

Dr. Fischer has used Marmorek's serum, administered per rectum in doses of from 5 to 10 cubic centimetres, for the treatment of 15 patients suffering from pulmonary tuberculosis. The result, as he said, when reading a paper on the subject before the Aerztlicher Verein, was not very encouraging. One patient became decidedly worse after one week, so that the treatment had to be stopped. The other 14 showed no ill effects due to the serum and, in fact, they improved to some extent as regards their weight and general condition, but the fever, cough, expectoration, and sweating were not influenced in any marked degree. All the patients were in the second stage of pulmonary tuberculosis, having infiltration of the lungs down to the second rib, moist râles, hectic fever, and loss of flesh and appetite. The favourable influence on the weight was explained by Dr. Fischer as being due to the improved hygienic conditions under which the patients were kept when in hospital. No subcutaneous injections were given, as has been recommended lately, nor were opsonic observations made. When Dr. Fischer found that even mild cases were not much benefited by a course of treatment lasting for three months he was not disposed to continue it.

May 13th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Marriage of Consumptives.

SOME ethical questions connected with tuberculous disease have recently given rise to considerable discussion in Hungary. Many medical men in this country ridicule the excessive anxiety of the public concerning the infectiousness of pulmonary tuberculosis and certainly the views expressed in the newspapers with regard to it are sometimes peculiar. A writer in a leading newspaper is at present urging that legislation should forbid the marriage of tuberculous persons, although he himself admits that this would be a very arbitrary proceeding and one likely to be opposed by public opinion. The medical press discountenances this proposal, though acknowledging that the mingling of tuberculous persons with the general population favours the extension of the disease. In regard to the question of the marriage of tuberculous persons the medical man is often placed in a difficult position and asked to undertake a very delicate task, but in spite of recent optimistic views respecting the inheritance of either tubercle or a liability to infection there can be no doubt that marriage of tuberculous persons or of those with marked constitutional predisposition to the disease should be discouraged.

An Unusual Case of Barlow's Disease.

At a recent meeting of the Royal Society of Physicians Dr. Grosz Gyula showed a case of Barlow's disease. The patient, who was a girl, aged 15 months, was fed from birth to the age of 12 months simply on boiled milk and afterwards she was given a mixed diet, consisting of soup, eggs, and meat. On this *régime* the child, it is stated, developed very well. Her first tooth came in her tenth month and she began to walk in her twelfth month. About six weeks previously her limbs began to be the seat of pain and to become swollen. On the two following days she suffered from attendances, or 0·181 franc per attendance. If general expenses be taken into account the total cost for 4138 attendances of 935 patients in 1905 was 6803·94 francs, or 1·64 francs per attendance; in 1906, for 5871 attendances of 1286 patients, the cost worked out at 9551·35 francs, or 1·85 francs per attendance. These figures include everything, not only drugs, gifts of food, and spittoons, but also the general working expenses of the department. This method of stating the cost is more trustworthy than that of reckoning the cost per patient, since only a certain number attend regularly; others come once only or very irregularly, not returning after receiving treatment which seems to have made them sufficiently well to return to work, whilst some others die. It is consequently impossible to make an accurate calculation on the basis of the number of patients treated.

A Spirochætal Disease Pathogenic to Man in Colombia.

At the Academy of Medicine on April 30th M. Blanchard described a recurrent febrile disease observed at Bogota at an altitude of 2800 metres; it resembled clinically the relapsing typhus fever of tropical Africa. It is not a fatal malady but clears up after three or four relapses. In the blood are found spirochætæ in very small numbers, resembling those found in the disease aforesaid. The specific nature of the disease is not yet determined, as inoculation of monkeys was not successful. It is not certain whether this parasite is to be identified with the spirochæta of relapsing fever or the spirochæta Duttoni of tick fever. In any case the disease, like the latter, is transmitted by an ornithodorus which attacks people in bed in the same way as the bed-bug. The existence of this disease at Bogota tends to prove the universal distribution of maladies due to spirochætæ throughout the tropical zone and also sheds further light on the pathogenic rôle of the ticks and large acarides of the genus Ixodes. It also explains the unpleasant experience of many travellers in different lands, especially in the north of Persia; in that country the Argas Persicus and Ornithodorus Tholozani cause amongst travellers a severe febrile infection of variable severity, which may be fatal, and which may be grouped amongst the spirochætal diseases; natives are not attacked on account of hereditary or acquired immunity. The disease reported from Colombia shows quite similar features.

The Influence of Vaccination on Whooping-cough.

At the Therapeutical Society on April 23rd M. Amat presented a study of this question. In his first case, an unvaccinated nursling suffering from whooping-cough, he found no good effect from vaccination, although six scars were obtained. Recently, however, M. Amat revaccinated two patients suffering from whooping-cough and they so notably improved that he has become very favourably inclined to this method of treating the disease.

Rectal Blennorrhagia and its Complications.

At the Academy of Medicine on April 30th Professor Fournier read a paper by Dr. Bronsurg-le-Bihan on this subject based on a comparatively large number of cases. In the first place, suppurative proctitis is not an obvious disease, as is often said; neither inflammation of the surrounding skin nor purulent discharge, as in gonorrhœa, is found; the pus is concealed and has to be looked for; it is of a brown colour and contains a rich bacterial flora. Three complications may be described—viz., acute periproctitis, which may lead to ischio-rectal abscess; chronic periproctitis, analogous to periurethritis; and rectal stenosis, which is generally mistaken for a syphilitic contracture.

Adulterated Flour.

A gross fraud carried out by dealers in flour in the South of France has recently been brought to light in the shape of the addition of talc to the flour to gain a greater profit. The excuse is given that the addition of talc increases the whiteness of the flour—a quality which the public demands even in the case of low-priced flours. The presence of talc, however, gives rise to various gastric troubles in those who partake of this adulterated flour. No fatal results have followed as yet, but a far-reaching inquiry is being undertaken into the matter. The practice seems to have attained considerable proportions among the flour dealers of Toulouse and of Poictiers.

May 13th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Operative Treatment of Cancer of the Stomach.

IN the *Korrespondenzblatt für Schweizer Aerzte* of May 1st Professor Kocher of Bern reports the results of 122 partial resections of the stomach followed by gastrostomy. He now performs very few palliative operations as the results proved unsatisfactory. In the 17 years from 1881 to 1898 he performed gastrostomy 52 times, Dr. Broquet reporting on these cases; in the next eight years there were 45 operations performed, the results of which Dr. Matti published; and Professor Kocher now adds 25 cases operated on during the last two and a half years. The mortality has decreased from 34·6 per cent. (Broquet) to 17·7 per cent. (Matti). Of the last 25 cases only four succumbed (16 per cent.). These four cases, however, had either been operated on previously or had severe complications. 19 simple and uncomplicated cases all recovered; this speaks well for the latest technique of operation. The importance of early diagnosis is obvious. The fate of such patients, says Professor Kocher, thus lies in the hands of the general practitioner. Where there is a suspicion of tumour in the gastric region a thorough examination under a general anæsthetic should be made. Inflation of the stomach should also be practised for diagnostic purposes and the contents of the stomach should be examined after a test meal. Sometimes it is desirable to apply the Glutzinsky method of emptying the stomach several times a day after meals. A decreasing amount of hydrochloric acid in the contents obtained points to the presence of cancer. Slight concealed hæmorrhages are of the greatest significance. Dr. Taworsky and Dr. Korolewicz recommended in a paper published in 1906 in the *Wiener Klinische Wochenschrift* (No. 38) that in all suspicious cases the fæces should be examined to see whether they contained blood. Dr. Boas of Berlin published a paper on the subject in 1905 (*Klinische Vorträge*). Hæmorrhages from a simple ulcer stop after a few days of rest in bed and careful dieting, but hæmorrhages due to cancer do not cease. Dr. Boas found blood in the stomach or fæces in 107 out of 124 cases of cancer of the stomach. Continuous decrease of appetite and increase of anæmia, together with symptoms of chronic gastritis without any persistent chronic irritation, as, for instance, from dietetic irregularities, gout, or the excessive use of alcohol, tea, tobacco, &c., are very suspicious. Lactic acid is only found in old-standing cases of ulcerating cancer with hyperacidity. Quite a number of publications on resection of the stomach for cancer have already appeared. Leriche (Lyon) collected 1366 cases operated on with a mortality of 25 per cent. Of Professor Kocher's 95 cases, all operated on at least three years ago, 13 are perfectly well and 18 died from other diseases without any return of cancer. The method of operation seems to be of importance as regards direct results. Guinard reports a mortality of 35·3 per cent. in 291 cases operated on by the Rhydygier-Billroth method. Professor Kocher has had a mortality of only 15·2 per cent. in 92 cases. He performs resection with consecutive gastro-duodenostomy and refers for the details of the operation to the latest edition of his book on operative surgery.

Zürich, May 8th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Serum Treatment of Diphtheria.

AN interesting paper on the value of anti-diphtheritic serum was read by Dr. Bittner at a recent meeting of the Brünner Medical Society. It was based upon observations made by him on 1515 children in the Children's Hospital. Of these 26 were taken into the hospital in a moribund condition and in 109 other cases the disease proved fatal, giving a mortality of a little over 7 per cent. It must be kept in mind that all these patients went to the hospital not on the first day of the disease but mostly on the third or fourth day and very often with grave complications. Surgical interference was necessary in 357 cases, including 249 intubations with a mortality of 14 per cent., 95 secondary tracheotomies with a mortality of 36 per cent., and 13 primary profession did not prevent him from pursuing medical studies. During his apprenticeship days he entered as a student at the Leeds School of Medicine, at that time and for long afterwards the most important provincial school in the country. He was dresser to the late Mr. Pridgin Teale, father of the present Mr. T. Pridgin Teale. Before the railway was opened he used to make the double journey from Dudley Hill to Leeds and back on foot. Five shillings a week indoors was the extent of his remuneration at the commencement of his apprenticeship and many of the duties about the surgery which are now considered menial formed part of his daily work. The amount of work which fell to the lot of the apprentice at that day was very great. To dispense for perhaps 100 patients a day, including the making of pills and powders by hand, keeping made up a large number of stock medicines ready for all eventualities, responding to urgent calls in the absence of the principal, and attending to the lion's share of some 300 midwifery cases a year, besides keeping the books, formed the daily and nightly routine of medical students. The only wonder is, how any time could be set apart for medical study. Professional examinations in those days, however, were directed to the discovery of whether candidates for qualification had practical knowledge of how things were done rather than into their knowledge of the more abstruse theories which might underlie practice. Even before he became qualified Mr. Lodge assisted his principal, then an old man, in a post-mortem examination which became classic, as it formed the starting-point of those investigations which, through the labours of the late Dr. J. H. Bell and others, have placed anthrax, or what was then called wool-sorters' disease, on the scientific basis where it now rests. Mr. Lodge wrote the account of the post-mortem examination of that case in the year 1854. In 1859 he took the diplomas of L.R.C.P. Edin. and M.R.C.S. Eng. He was a prompt, energetic, and self-reliant practitioner who was at all times ready to act as circumstances might require. The writer of this little memoir has himself entered a cottage home in company with Mr. Lodge and has seen him there and then cut down on a strangulated umbilical hernia, relieving the stricture by means of a pocket scalpel opening on the principle of a penknife. The patient made an excellent recovery without suppuration, although no special antiseptic precautions were taken. This was about the time when a distinguished student of a Scottish university was "sent back" by the Royal College of Surgeons of England, it was generally believed, because he had advocated in his examination more care for asepticism than was then considered necessary by the College authorities. So wide has been the change in medical opinion and in surgical practice. Some distinguished practitioners of medicine, if unknown to general fame—notably the late Mathew Lee, a very prompt, resourceful, and brilliant surgeon—were trained by Mr. Lodge. Although in some respects the present generation of medical practitioners is better educated than those who are rapidly passing away the older men in their time set a good example of courage, resource, probity, honour, and humanity. *Requiescant in pace.*

THE ROYAL SANITARY INSTITUTE: ANNUAL DINNER.

THE annual dinner of the Royal Sanitary Institute was held in the Langham Hotel, Portland-place, on Wednesday, May 15th, the Duke of Northumberland, the President of the Institute, occupying the chair. On the chairman's right were Major-General Right Hon. Lord Cheylesmore, Major-General Sir Thomas Fraser, Sir Lauder Brunton, Surgeon-General Sir Alfred H. Keogh, Sir John McFadyean, Surgeon-General A. M. Branfoot, Mr. S. Pollitzer, and Sir Alexander Binnie. To the left of the chair were Mr. H. D. Searles-Wood, Chairman of Council; Sir Francis Powell, Colonel Sir Charles M. Watson, Sir Aston Webb, Canon Barker, Sir James Crichton-Browne, Sir Thomas Brooke-Hitching, Sir Shirley F. Murphy, Dr. H. Gervis, Mayor of Brighton, and Dr. E. B. Forman.

After the usual loyal toasts had been proposed and honoured, Sir JOHN MCFADYEAN proposed the toast of "The Navy, the Army, and the Auxiliary Forces." He confessed to some amount of ignorance in regard to naval and military affairs, but expressed an admiration for both services. He thought that the Royal Army Medical Corps was in a high state of efficiency and it was a source of great satisfaction that it included a great many supporters of the institute. In reply to this toast Major-General Sir THOMAS FRASER referred to the importance of maintaining the strength of our forces on land and on sea.

The toast, "The Houses of Parliament," was proposed by Sir THOMAS BROOKE-HITCHING, who said that they owed much to Parliament in regard to sanitation. Major-General the Right Hon. Lord CHEYLESMORE replied for the House of Lords and Sir FRANCIS POWELL for the House of Commons. The latter paid great tribute to the zeal of Mr. John Burns in his efforts to secure sanitary conditions for the people. He was, he said, devoted heart and soul to the physical well-being and health of the people. He referred also to the attempts of the Government to insure a purer food supply. He thought that something had been gained when the public showed, though it might be incomplete, yet some knowledge of the laws of health. In conclusion he congratulated the Sanitary Institute on the excellent work which it was doing.

In proposing the toast of "The Royal Sanitary Institute" the Duke of NORTHUMBERLAND said that the progress of the institute was most satisfactory. The Secretary of State for War had recently complimented them on the standard of their examinations. The institute was in a sound financial position and he thought it a very excellent fact that they were spending their money in doing just that work for which the institute was established. Mr. SEARLES-WOOD, replying to this toast, gave some statistics as to the annual number of candidates examined on whom they looked as sanitary missionaries.

Sir ASTON WEBB, in proposing the toast of "The Visitors," said he should like to see legislative measures introduced providing for the regulation of the development of towns and cities, for open spaces, and for broad streets and avenues which would admit plenty of sunshine and air. Overcrowding was a terrible evil, engendering squalor and misery and a menace to the health of the bread-winner. Colonel Sir CHARLES WATSON replied and referred to the excellent work of the War Office in advancing sanitation.

The dinner was excellent and well served, and the organising committee and its secretary may be congratulated on the distinct success which attended the occasion.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The Council of the Royal College of Surgeons of England on May 9th conferred diplomas of M.R.C.S. upon the undermentioned gentlemen who have completed the Final Examination in Medicine, Surgery, and Midwifery of the Examining Board in England, the Royal College of Physicians of London having conferred its licence upon the same candidates on April 25th last:—

George Henry Adam, King's College and St. Bartholomew's Hospital; Frederick Octavius Arnold, B.A. Cantab., Cambridge and Manchester Universities and St. Thomas's Hospital; Hugh Tuke Ashby, B.A. Cantab., Cambridge and Manchester Universities; Philip Heinrich Bahr, B.A. Cantab., Cambridge University and London Hospital; Harold Josiah Beddow, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Richard Charles Palmer Berryman, St. Bartholomew's Hospital; John Birch, Manchester University; Robert Edward Brayne, Guy's Hospital; Josiah Browne, King's College Hospital; Charles Walter Gordon Bryan, St. Mary's Hospital; Martin Binns Studer Button, L.S.A., London Hospital; Harry Vivian Bratt Bratt, B.A. Cantab., Cambridge University and London Hospital; William James Chapman, M.D., C.M., Toronto University and Middlesex Hospital; Percy John Chissell, Middlesex Hospital; Spencer Churchill, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Edward Bellis Clayton, B.A. Cantab., Cambridge University and King's College Hospital; Horace Charles Colyer, L.D.S., Charing Cross and University College Hospitals; Percival Sandys Connellan, University College, Bristol; Paul Alfred Creux, Lausanne University and London Hospital; Timothy Howell Davies, Middlesex Hospital; Arthur Hubert Treby Davis, St. George's Hospital; Herbert Edwin Tonge Dawes, B.A. Cantab., Cambridge University and St. Thomas's Hospital; George Denholm, M.B., B.S. Durh., Durham University; Arnold Thomas Densham, Cambridge University and Guy's Hospital; Horace Dimock, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Maurice Nason Dyde, Guy's Hospital; Howard Rollinson Elliott, Sheffield University; Carlton Atkinson Ellis, London Hospital; William Aiken Fairclough, M.B., Ch.B. New Zealand, New Zealand University; John Henry Farbstein, University College Hospital; Marmaduke Fawkes, St.

bleeding from her mouth and the stools were blood-stained. At the end of January her scalp suddenly became swollen, as did also her eyelids. In this condition she was taken to the surgical section of a hospital, where she was kept under observation until Feb. 12th. The diagnosis was hæmatoma capitis. The swelling diminished visibly after the application of wet compresses, so that at the time of her discharge from the hospital no tumour could be felt. On Feb. 25th she was again taken to the hospital. She then looked delicate and was very ill developed, but there were no characteristic signs of rachitis. The shafts of the left thigh-bone and the left tibia were enlarged and on palpation hard, irregular swellings could be felt. Over both parietal regions of the skull there was a swelling, through which, on deep pressure, the sparsely covered bone could be felt. Both the upper and the lower eyelids were generally of a bluish-red colour. From these symptoms the diagnosis of Barlow's disease was established. The following symptoms were especially characteristic: rapid development, pains in the limbs, subperiosteal hæmorrhages over the long bones and the bones of the skull, and hæmorrhages from the mouth and the bowel.

The Ears of School Children.

At a recent meeting of the medical society of a considerable country town in Hungary a school medical officer presented an interesting report on the examination of the ears of 1000 school children. The investigation was undertaken with the objects of ascertaining the amount of ear disease in children of the poorest class, and if necessary of drawing attention to the subject. For the purpose of this inspection ears were considered to be normal when the membranes presented the usual appearance and the whispered voice could be heard at a distance of from eight to 12 metres. Inability to pass this test with one or both ears was present in 634 out of 1000 children. Foreign bodies were found in the ears of 16 children, of whom 13 were girls. Of 107 cases of deafness there were adenoids in 91; 270 of the total number of children had a discharge from one or both ears and in 74 cases the discharge was suppurative. The number who had previously suffered from middle ear discharge was 219 and of these 183 had adenoids, and perforation existed in 49, while adenoids occurred in 416 children, of whom 387 presented some aural troubles.

A New Method of Percussion.

It is well known that among men similarly trained some are more expert than others in the use of percussion as a means of diagnosis. This shows that even in such a simple matter there is room for the exercise of skill. A common error in employing percussion is for the hand to be laid flat upon the surface to be examined; this has the effect of diminishing the resonance, and the proper method is to place only the extremity of the "anvil finger" on the surface to be examined. An improvement has been suggested by Dr. Janos Plesch, a Budapest practitioner. Instead of placing the hand on the surface in the manner just described he flexes the middle finger of the right hand at a right angle at the joint between the first and second phalanges, only the pulp of the finger being brought into contact with the surface, by forcibly extending the joint between the second and third phalanges. Percussion is then practised on the lower epiphysis of the first phalanx. This it is claimed gives a clearer resonance and has the advantage of enabling the observer to limit his investigation to a smaller area of the surface. In abdominal percussion this method is less disturbing to the patient than when the flat of the hand is applied to the surface.

May 13th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Appalling Mortality from Plague.

BESIDES the appalling mortality from plague there is little of medical interest to record. For the week ending April 13th 87,561 cases with 75,472 deaths were reported. This is an increase of some 14,000 cases and 12,000 deaths over the previous week. The Punjab heads the list with 45,296 cases and 39,084 deaths; then following are: United Provinces, 27,236 cases and 23,948 deaths; Bengal, 7915 cases and 7092 deaths; Bombay, 4092 cases and 2981 deaths; Central Provinces, 1218 deaths; and Rajputana, 348 deaths. Besides these weekly returns it is of interest to calculate the recorded mortality from the present epidemic of plague since its commencement. From October, 1896, to Dec. 31st, 1906, the total deaths reported have been 4,411,242, and during the first three months of the present year no less than 495,000 deaths have been known to occur. The mortality has fluctuated greatly:—

In 1901	there were	reported	274,000	deaths.
,, 1902	,,	,,	577,000	,,
,, 1903	,,	,,	851,000	,,
,, 1904	,,	,,	1,022,000	,,
,, 1905	,,	,,	951,000	,,
,, 1906	,,	,,	332,000	,,

With the intensely severe recrudescence which has occurred during the present year, especially in the north-west portion of India, even the highest of these figures may be exceeded. It will be noticed that the Bombay Presidency now takes a much better place than formerly and it would almost seem as if the disease were dying out gradually in that province. On the other hand, it must not be supposed that the official figures are accurate. The returns of plague in many places do not account for the whole of the increased mortality, and if that can be clearly shown for places where the registration of deaths is fairly correct it is reasonable to assume that plague carries off many more victims than the above figures show. In addition to plague there has been an increased mortality from all other causes. The death-rate for the whole of India has increased steadily during the past five years—viz., from 29 per 1000 in 1901 to 38 per 1000 in 1905 When it is found, however, that Madras recorded the low rate of 21·4 during 1905 one looks with suspicion upon the returns, notwithstanding that this province is practically free from plague. Amidst these unsatisfactory returns Calcutta takes a comparatively enviable position. The plague returns from this city, which has now been infected for over nine years, are very small compared with other places. It is true that over 50,000 people have died in the city, but this is a small number in all the circumstances. Last year there were only 2600 deaths and the recrudescence this year, though somewhat more severe than that of 1906, is less than half the severity of that of 1905. It has been noticed during the present outbreak that the average duration of each fatal case is about five days.

The Plague Department in Calcutta.

The question of the amalgamation of the plague department in Calcutta with that of the health department of the corporation is again up for discussion. Up to the present the plague department has been under the Bengal Government and has been worked smoothly and satisfactorily. Motives of economy occasionally sway the corporation and it is supposed that by taking over the subordinate staff of the plague department all the previous work of the two departments can be accomplished by the health department. The opportunity is being taken also of improving the status of the district health officers and of introducing new men. In the long run very little expense will be saved but if the new health officers and the new district officers are suitable men the transference of the plague department may be successful. It is the general opinion that the change if made with the existing staff would be disastrous.

April 26th.

Obituary.

SAMUEL LODGE, L.R.C.P. EDIN., M.R.C.S. ENG.

Mr. Samuel Lodge of Bradford, Yorkshire, died at his residence in that city on May 9th at the age of 83 years, during 25 of which he had held the position of police surgeon. He had been for a much longer time one of the poor-law medical officers and had been in receipt of a retiring allowance in that capacity for several years before his death. Mr. Lodge was the oldest medical practitioner in the city and with his departure the chief representative of what may be called the old school medical practitioner has disappeared. Sprung from substantial yeomen parents in Witney, Oxfordshire, and the eldest of a family of 11, all of whom predeceased him, he obtained the beginning of his medical education under the old system of apprenticeship as an articled pupil of Dr. W. Field. Before that time Mr. Lodge had been a schoolmaster, but the teaching profession did not prevent him from pursuing medical studies. During his apprenticeship days he entered as a student at the Leeds School of Medicine, at that time and for long afterwards the most important provincial school in the country. He was dresser to the late Mr. Pridgin Teale, father of the present Mr. T. Pridgin Teale. Before the railway was opened he used to make the double journey from Dudley Hill to Leeds and back on foot. Five shillings a week indoors was the extent of his remuneration at the commencement of his apprenticeship and many of the duties about the surgery which are now considered menial formed part of his daily work. The amount of work which fell to the lot of the apprentice at that day was very great. To dispense for perhaps 100 patients a day, including the making of pills and powders by hand, keeping made up a large number of stock medicines ready for all eventualities, responding to urgent calls in the absence of the principal, and attending to the lion's share of some 300 midwifery cases a year, besides keeping the books, formed the daily and nightly routine of medical students. The only wonder is, how any time could be set apart for medical study. Professional examinations in those days, however, were directed to the discovery of whether candidates for qualification had practical knowledge of how things were done rather than into their knowledge of the more abstruse theories which might underlie practice. Even before he became qualified Mr. Lodge assisted his principal, then an old man, in a post-mortem examination which became classic, as it formed the starting-point of those investigations which, through the labours of the late Dr. J. H. Bell and others, have placed anthrax, or what was then called wool-sorters' disease, on the scientific basis where it now rests. Mr. Lodge wrote the account of the *post-mortem* examination of that case in the year 1854. In 1859 he took the diplomas of L.R.C.P. Edin. and M.R.C.S. Eng. He was a prompt, energetic, and self-reliant practitioner who was at all times ready to act as circumstances might require. The writer of this little memoir has himself entered a cottage home in company with Mr. Lodge and has seen him there and then cut down on a strangulated umbilical hernia, relieving the stricture by means of a pocket scalpel opening on the principle of a penknife. The patient made an excellent recovery without suppuration, although no special antiseptic precautions were taken. This was about the time when a distinguished student of a Scottish university was "sent back" by the Royal College of Surgeons of England, it was generally believed, because he had advocated in his examination more care for asepticism than was then considered necessary by the College authorities. So wide has been the change in medical opinion and in surgical practice. Some distinguished practitioners of medicine, if unknown to general fame—notably the late Mathew Lee, a very prompt, resourceful, and brilliant surgeon—were trained by Mr. Lodge. Although in some respects the present generation of medical practitioners is better educated than those who are rapidly passing away the older men in their time set a good example of courage, resource, probity, honour, and humanity. *Requiescat in pace.*

THE ROYAL SANITARY INSTITUTE: ANNUAL DINNER.

THE annual dinner of the Royal Sanitary Institute was held in the Langham Hotel, Portland-place, on Wednesday, May 15th, the Duke of Northumberland, the President of the Institute, occupying the chair. On the chairman's right were Major-General Right Hon. Lord Cheylesmore, Major-General Sir Thomas Fraser, Sir Lauder Brunton, Surgeon-General Sir Alfred H. Keogh, Sir John McFadyean, Surgeon-General A. M. Branfoot, Mr. S. Pollitzer, and Sir Alexander Binnie. To the left of the chair were Mr. H. D. Searles-Wood, Chairman of Council; Sir Francis Powell, Colonel Sir Charles M. Watson, Sir Aston Webb, Canon Barker, Sir James Crichton-Browne, Sir Thomas Brooke-Hitching, Sir Shirley F. Murphy, Dr. H. Gervis, Mayor of Brighton, and Dr. E. B. Forman.

After the usual loyal toasts had been proposed and honoured, Sir JOHN MCFADYEAN proposed the toast of "The Navy, the Army, and the Auxiliary Forces." He confessed to some amount of ignorance in regard to naval and military affairs, but expressed an admiration for both services. He thought that the Royal Army Medical Corps was in a high state of efficiency and it was a source of great satisfaction that it included a great many supporters of the institute. In reply to this toast Major-General Sir THOMAS FRASER referred to the importance of maintaining the strength of our forces on land and on sea.

The toast, "The Houses of Parliament," was proposed by Sir THOMAS BROOKE-HITCHING, who said that they owed much to Parliament in regard to sanitation. Major-General the Right Hon. Lord CHEYLESMORE replied for the House of Lords and Sir FRANCIS POWELL for the House of Commons. The latter paid great tribute to the zeal of Mr. John Burns in his efforts to secure sanitary conditions for the people. He was, he said, devoted heart and soul to the physical well-being and health of the people. He referred also to the attempts of the Government to insure a purer food supply. He thought that something had been gained when the public showed, though it might be incomplete, yet some knowledge of the laws of health. In conclusion he congratulated the Sanitary Institute on the excellent work which it was doing.

In proposing the toast of "The Royal Sanitary Institute" the Duke of NORTHUMBERLAND said that the progress of the institute was most satisfactory. The Secretary of State for War had recently complimented them on the standard of their examinations. The Institute was in a sound financial position and he thought it a very excellent fact that they were spending their money in doing just that work for which the institute was established. Mr. SEARLES-WOOD, replying to this toast, gave some statistics as to the annual number of candidates examined on whom they looked as sanitary missionaries.

Sir ASTON WEBB, in proposing the toast of "The Visitors," said he should like to see legislative measures introduced providing for the regulation of the development of towns and cities, for open spaces, and for broad streets and avenues which would admit plenty of sunshine and air. Overcrowding was a terrible evil, engendering squalor and misery and a menace to the health of the bread-winner. Colonel Sir CHARLES WATSON replied and referred to the excellent work of the War Office in advancing sanitation.

The dinner was excellent and well served, and the organising committee and its secretary may be congratulated on the distinct success which attended the occasion.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The Council of the Royal College of Surgeons of England on May 9th conferred diplomas of M.R.C.S. upon the undermentioned gentlemen who have completed the Final Examination in Medicine, Surgery, and Midwifery of the Examining Board in England, the Royal College of Physicians of London having conferred its licence upon the same candidates on April 25th last:—

George Henry Adam, King's College and St. Bartholomew's Hospital, Frederick Octavius Arnold, B.A. Cantab., Cambridge and Manchester Universities and St. Thomas's Hospital; Hugh Tuke Ashby, B.A. Cantab., Cambridge and Manchester Universities; Philip Heinrich Bahr, B.A. Cantab., Cambridge University and London Hospital; Harold Josiah Beddow, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Richard Charles Palmer Berryman, St. Bartholomew's Hospital; John Birch, Manchester University; Robert Edward Brayne, Guy's Hospital; Josiah Browne, King's College Hospital; Charles Walter Gordon Bryan, St. Mary's Hospital; Martin Binns Studer Burton, L.S.A., London Hospital; Harry Vivian Bratt Pratt, B.A. Cantab., Cambridge University and London Hospital; William James Chapman, M.D., C.M., Toronto University and Middlesex Hospital; Percy John Chisell, Middlesex Hospital; Spencer Churchill, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Edward Bellis Clayton, B.A. Cantab., Cambridge University and King's College Hospital; Horace Charles Colyer, L.D.S., Charing Cross and University College Hospitals; Percival Sandys Connellan, University College, Bristol; Paul Alfred Creux, Lausanne University and London Hospital; Timothy Howell Davies, Middlesex Hospital; Arthur Hubert Treby Davis, St. George's Hospital; Herbert Edwin Yonge Dawes, B.A. Cantab., Cambridge University and St. Thomas's Hospital; George Denholm, M.B., B.S. Durh., Durham University; Arnold Thomas Denham, Cambridge University and Guy's Hospital; Horace Dimock, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Maurice Mason Earle, Guy's Hospital; Howard Robinson Elliott, Sheffield University; Carlton Atkinson Ellis, London Hospital; William Aiken Fairclough, M.B., Ch.B. New Zealand, New Zealand University; John Henry Farbstein, University College Hospital; Marmaduke Fawkes, St.

Bartholomew's Hospital; Norman Flower, B.A. Oxon., Oxford University and Guy's Hospital; William Edward Lindsey Fowler, St. Bartholomew's Hospital; Claude Howard Stanley Frankau, St. George's Hospital; William Douglas Frew, L.D.S. Eng., Middlesex Hospital; Percy Charles Garrett, Manchester University; Harold Gibson, London Hospital; William Stonier Gibson, L.S.A., Middlesex and Manchester University; Alexander Savill Graham, Charing Cross Hospital; George Graham, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; William Robert Greening, Guy's Hospital; Frederic William Wandby Griffin, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Robert Eugene Vaughan Hale, B.A. Cantab., Cambridge and St. Andrews Universities, and St. George's Hospital; Hother McCormick Hanschell, St. Bartholomew's Hospital; Robert Norman Hartley, Manchester University; Lionel Chattock Hayes, Birmingham University; Arthur William Hayward, Cambridge University and Westminster Hospital; Charles Edward Kynaston Herapath, University College, Bristol; George Alexander Frederick Heyworth, B.A. Cantab., Cambridge University and London Hospital; Walter de Marchot Hill, St. Bartholomew's Hospital; Hendrik Houwink, London Hospital; Richard de Silva Illesinghe, L.M. & S. Ceylon, Ceylon Medical College and University College Hospital; Charles George Jarvis, M.D. Paris, Paris University; Richard Sydney Jenkins, Cambridge University and London Hospital; William Griffith Jones, L.D.S. Edin., Cardiff and Manchester University; Alexander John Kendrew, St. Bartholomew's Hospital; Solomon Krestin, M.D., B.Sc. Geneva University, University of Geneva; Malcolm Leckie, Guy's Hospital; Harold Howard Leeson, St. George's Hospital; William Samuel Leicester, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Richard Leonard Ley, B.A. Cantab., Cambridge University and St. Mary's Hospital; Conrad Loddiges, St. Bartholomew's Hospital; William Lovell, L.S.A., St. Mary's Hospital; Frederic Boulton Lowe, M.R.C.V.S., Guy's Hospital; James Barlow Macalpine, M.B., Ch.B. Man., Manchester University; Colin Francis Frederick McDowall, M.B., B.S. Durh., Durham University; Eric Lachlan Marchant, M.B., Ch.B. New Zealand, New Zealand University and London Hospital; William Beare Martin, Manchester University; John Harry Mayston, Guy's Hospital; Brian Bentley Metcalfe, Guy's Hospital; Henry Lewis Morgan, London Hospital; Edgar Lionel Robert Norton, Guy's Hospital; Henry Sandford Ollerhead, St. Mary's Hospital; Arthur O'Neill, St. Bartholomew's Hospital; Gerard Lyne Parsons, Westminster Hospital; Basil Thomas Parsons-Smith, St. Thomas's Hospital; Walter Patey, St. Thomas's Hospital; Stanley Paulin, M.B. Tor., Toronto University and London Hospital; Charles Arnold Pemberton, New Zealand University and Middlesex Hospital; Edward Campbell Pope, St. Mary's Hospital; Otto Carl Willy Prausnitz, M.D. Breslau, Breslau University; Geoffrey Price, St. Thomas's Hospital; John Lawson Rankine, Guy's Hospital; John Allister Renshaw, St. Bartholomew's Hospital; Kenneth Robinson, Manchester University; Cecil Frank Rumsey, L.D.S. Eng., Charing Cross Hospital and Cambridge University; Alfred Ludovicus Sachs, M.A. Cantab., Cambridge University and St. Thomas's Hospital; Leslie St. Vincent-Welch, St. Bartholomew's Hospital; John Selfe, St. George's Hospital; Edgar Arthur Shirvell, London Hospital; Arthur Leonard Singer, Cambridge University and London Hospital; William Fretson Skinner, L.S.A., Sheffield University and University College Hospital; Francis George Snoad, Birmingham University and St. Mary's Hospital; Edward Cyril Sparrow, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Lionel Duncan Stamp, Guy's Hospital; Frank Standish, London Hospital; George Stone, London Hospital; Arthur Arbuthnot Straton, St. Mary's Hospital; Joseph Roderick Sutherland, M.B., Ch.B. Glasg., Glasgow University; Ronald Ernest Todd, St. Thomas's Hospital; Sohrab Shapoorji Vazifdar, L.M. & S. Bombay, Bombay University; John Leeming Walker, M.D., C.M. McGill, McGill University, Montreal; Norman Hamilton Walker, St. Bartholomew's Hospital; Ronald Ralph Walker, B.A. Cantab., Cambridge University and Guy's Hospital; Harry Gordon Webb, St. George's Hospital; Henry Bright Weir, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Harrie Bruce Wickham, Liverpool University; Joseph William James Willcox, University College, Bristol; Cecil Lennox Williamson, Liverpool University; and Lorton Alexander Wilson, Manchester University.

The Royal College of Physicians also conferred its licence upon the following gentlemen who have already received their M.R.C.S. diploma:—

Robert Dixon Brown, St. Thomas's Hospital; Henry Orton Howitt, McGill University; Charles Grange McGreer, Queen's University, Kingston, and Middlesex Hospital; and Charles Edward Waldron, London Hospital.

Royal College of Surgeons of England.—At the half-yearly Primary Examination for the Fellowship of the above College, held on May 2nd, 3rd, 7th, 8th, 9th, and 10th, 113 candidates presented themselves for examination, of whom 33 per cent. were approved and 66 per cent. were rejected. The following are the names of the successful candidates:—

George Cuthbert Adeney, M.B., B.S. Lond., M.R.C.S., L.R.C.P. St. Thomas's Hospital; William Appleyard, M.B., B.S. Lond., M.R.C.S., L.R.C.P., University College Hospital; Arthur Laurence Candler, St. Bartholomew's Hospital; Hubert Chitty, M.B., B.S. Lond., M.R.C.S., L.R.C.P., University College Hospital; George Herbert Colt, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and St. Bartholomew's Hospital; Percival Templeton Crymble, M.B., B.Ch., B.A.O. R.U.I., Queen's College, Belfast; Edmund Arthur Dorrell, M.R.C.S., L.R.C.P., D.P.H., University College, Bristol, and St. Bartholomew's Hospital; Augustin Pownall Fry, St. Bartholomew's Hospital; Wilfred Watkinson Holtzmann, M.A., M.B., B.C. Cantab., London Hospital; Charles William Menelaus Hope, M.B., B.S. Lond., M.R.C.S., L.R.C.P., King's College; William Johnson, Guy's Hospital; John Lawrence Johnston, Guy's Hospital; Hugh Braund Kent, Guy's Hospital; Alexander Kinder, M.B., B.Ch., B.Sc. New Zealand, M.R.C.S., L.R.C.P., New Zealand University and London Hospital; John Christopher Lyth, Leeds University; John Alexander McCollum, M.B. Toronto, M.R.C.S., L.R.C.P., Toronto University and King's College; Michael McCann, M.B., B.Ch. R.U.I., King's College and Queen's College, Belfast; Francis Edmund McKenty, M.D., C.M. McGill, M.R.C.S., L.R.C.P., McGill University; Reginald Hawksworth Mawhood, B.A. Cantab., St. Bartholomew's Hospital; Richard Drummond Maxwell, M.D. Lond., M.R.C.S., L.R.C.P., London Hospital; Edwin Bertram Morley, London Hospital; Krishna Moreshwar Pardhy, M.R.C.S., L.R.C.P., King's College and Birmingham University; George Henry Pooley, F.R.C.S. Edin., Cambridge University and St. George's Hospital; John Wardell Power, M.B., C.M., Sydney University; Frederick Charles Pybus, M.B., B.S. Durh., Durham University; Paul Bernard Roth, M.B., Ch.B. Aberd., Aberdeen University and London Hospital; Henry Charles Gustavus Semon, M.A., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., Oxford University, University College and King's College; George Charles Edward Simpson, B.A., M.B., B.C. Cantab., B.Sc. Lond., Cambridge University and St. Bartholomew's Hospital; Henry Sessions Souttar, M.A., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., Oxford University and London Hospital; Joseph Collingwood Stewart, M.B., M.S. Durh., Durham University and King's College; Eward Philip Stibbe, Charing Cross Hospital; Harvey Sutton, M.D., Ch.B. Melb., Melbourne University and Oxford University; Harold Lindley Tasker, University College; Henry Ashbourne Treadgold, B.A. Cantab., Cambridge University; Wilfrid Warwick Treves, B.A. Cantab., Cambridge University and London Hospital; Cranston Walker, Birmingham University; and George Ewart Wilson, M.B. Toronto, Toronto University and London Hospital.

University of Edinburgh.—The following is the official list of passes at the recent professional examinations for degrees in Medicine and Surgery:—

First Professional Examination.—J. A. Andrews, P. W. Bedford, B. J. W. Bennetts, Prem Nath Berry, Charlotte M. Birnie, J. R. Boyd, U. F. F. Brown, C. E. H. Browne, H. M. Buchanan, F. D. Cairns (with distinction), E. H. Cameron, William Campbell (with distinction), E. R. Carlos, Tapeshurnath Caul, Anna Chase, G. J. Cillie, Andrew Cochrane, Lilian Cook, D. H. D. Cran, May F. F. Davidson, Robert Dow, W. E. Fitzgerald, H. H. C. Fuller, Alexander Galletly, K. A. Gilchrist, J. P. Glyn, C. W. Graham, A. C. Heard, Jack Hewat, Samuel Hodkinson, N. J. Hofmeyr, B.A., John Honeyford, J. L. Huggan, W. H. Irving, Abraham Jasinowsky, H. A. Khin, Archibald Langwill, J. J. Levin, Thomas Lindsay, R. B. Llewellyn, F. M. Low, Eva M. Lyon, E. F. G. M'Auliffe, G. N. M'Diarmid (with distinction), E. C. Mackay, Robert M'Laren, N. G. M'Lean, Peter M'Nab (with distinction), D. F. Macrae, W. C. B. Meyer, Lucy M. Muir, F. D. Pascoe, L. T. Poole, S. H. Pugh, K. Ahobala Rao, A. B. Robertson, W. H. Robinson, H. A. Von Ronn, C. M. Rout, E. St. J. Scally, T. M. Sellar, Robert G. Shaw, S. F. Silberbauer, W. F. W. Sim, W. D. D. Small, B. H. H. Spence, H. H. Stewart, R. M. Stewart, James Taylor, J. H. Tennent, C. M. R. Thatcher, P. H. du Toit, F. L. Tulloch, Mary B. Walker, S. J. A. Hall Walsh, F. H. C. Watson, John Watson, J. H. Watson, T. C. Welsh, L. S. Willox, and N. C. Young.

Second Professional Examination.—D. C. Adam, T. A. Adams, David Aiken, R. J. Allsopp, Alexander Archibald, Alice E. M. Babington, T. H. Balfour, Eveline R. Benjamin, W. M. Biden, T. C. Borthwick, F. A. J. Brodziak, G. S. Brown, A. Ninian Bruce, B.Sc., W. F. Buist, W. L. Burgess (with distinction), B. N. Burjorjee, A. W. Burton (with distinction), Sarah E. Boyers, J. A. Campbell (with distinction), Louis Cassidy, John Cathcart, G. L. Cawkwell, R. B. Chamberlain, P. H. Chauvin, B. R. Chopra, F. M. Chrystal, N. A. Coward, James Crocket, Lucy E. Davies, J. K. M. Dickie, Adelaide A. Dreaper, J. W. C. Drever, F. A. Duffield, A. M. Elliott (with distinction), W. C. Fragoso, E. L. Galletly, Cromwell Gamble, Mary M. Gardner, G. H. Garnett, A. W. Gill, T. J. Gilmore, D. M'D. Grant, R. D. Latimer Greene, S. C. Sen Gupta, A. G. Hamilton, E. S. B. Hamilton, H. F. Hamilton, R. C. Harkness (with distinction), J. B. Haycraft, John Henderson, G. R. Inglis, Flora Innes, W. C. Jardine, A. M. Jones, G. E. King (with distinction), J. H. Lawry, D. O. Lee, L. A. Lewis, Harry Lipetz, W. R. Logan, H. A. V. Loots, C. L. Low, Mary Low, M.A., H. F. Lumsden, Alexandra B. MacCallum, David M'Carrol, A. J. M'Connell, William Macdonald, G. H. G. Mackay, John Cosserat Mackenzie, Duncan Mackinnon, A. G. MacLeod, Donald M'Phail, R. C. MacQueen, John Malloch, T. H. B. Mathewson, W. M. Menzies, William Messer, E. L. Middleton, L. M. V. Mitchell, John Montgomery, S. P. Moore, J. A. Mortimer, J. M. Moyes, C. C. Murray, Kishanlal Nehru, J. G. Nicholson, M.A., F. H. Noronha, James Oag, M.A., J. B. T. Oxley, J. J. Pace, S. P. P. Proctor, John Renwick, D. G. Robertson (with distinction), W. S. Robertson, D. M. Ross, Marguerite Ross, William Ross, M.A., R. P. Rosser, Philip Roytowski, A. C. Russell, C. M. Schaffter, Jessie A. Scott, J. J. M. Shaw, M.A., J. C. Simpson, Kerr Simpson, G. H. Sinclair, Gertrude M. Smith, H. Faithful Smith, B.A., J. G. Smyth, James Sprent, B.Sc., William Stewart, C. P. A. Straughan, James Swan, H. W. Teague, J. A. Thompson, W. S. Thomson, J. C. Watson, Tom Welsh, J. P. Whetter, E. V. Williams, and J. D. Wilson (with distinction). Old regulations: William Brand, P. M. Carlyle, and J. C. Tennent.

Third Professional Examination.—R. C. Alexander, H. M. Anderson, Marion H. Archibald M.A., Margaret W. Bartholomew, Lydia D. la Trobe Bateman (with distinction), G. L. Batra, James Black, Henry Blyth, A. M. Bose, William Boyd, John Brander, F. S. Brennan, B. S. Browne, J. A. Browne, J. E. Brydon, J. T. Carson, Jean G. Cathels, J. J. P. Charles, W. P. Chrystall, D. G. Cooper, G. H. H. S. Cormack, F. G. Cowan, D. D. Craig, Emilie C. Creaser, G. H. Dart, P. J. Davidson, J. M. Deuchars, J. T. Dickson, Joanna M. F. Drake, W. J. Duncan, A. L. Dykes, W. G. Evans, John Findlay (with distinction), William Fleming, Kenneth Fraser (with distinction), Thomas Gardner, Alex. Gibson, M.A. (with distinction), A. I. Girdwood, R. L. Girdwood, J. A. Gordon, Peter Gorrie, J. C. B. Grant, F. W. Greaves, J. A. W. Hackett, J. K. Hamilton, M.A., Robert Hannah, F. W. Hay, Hester M. Henderson, Herbert Hutson, J. D. Ingram

F. E. Jardine, J. J. Jervis, W. W. Johns, H. E. Johnson, J. V. Karve, A. W. Kendall, E. W. Kirk, R. A. Krause, F. R. Laing, C. L. Laurent, H. R. Lawrence, A. J. B. Leckie, M. A. Lindsay, V. D. O. Logan, James Lorimer, J. C. Lorraine, H. Bruce Low, R. F. D. MacGregor, Kenneth Mackenzie (with distinction), A. C. M'Killop, W. M. Macnab, David Macnair, E. R. D. Maconochie, A. O. Mallace, M.A., John Marshall (with distinction), W. J. F. Mayne, J. A. Mitchell, J. B. de W. Molony, Katherine B. A. Nelson, C. T. Newton, I. A. van Niekerk, E. F. W. Nixey, A. C. Norman, A. B Pearson, J. H. H. Pearson, J. Harold Peek, Laura W. Pugh, K. A. Rahman, E. M. Reid, J. J. van Rensburg, C. L. D. Roberts, D. H. Russell, John Scott (with distinction), Frederick Shannon, J. T. Simson, E. W. Smerdon, W. B. Somers, G. S. Sowden, M.A., J. R. Spence, J. W. Stirling, William Stobie, E. A. Strachan, Adam Tait, G. P. Taylor, Eleanor M. Thompson, J. G. Thomson, M.A., J. J. Thomson (with distinction), R. W. Lang Todd, B.Sc., Raymond Verel (with distinction), F. H. de Villiers, A. A. Walbrugh, E. A. Walker, W. Oliphant Walker, H. S. Wallace, L. E. B. Ward, John Ware, F. K. te Water, F. W. Waterworth (with distinction), A. Pirie Watson, M.A., H. Ballingall Watson, M.A., H. L. Watson Wemyss, Adam White, D. J. Williamson, E. D. Wilmot, G. G. Wray, A. G. Yates, M.A., and W. A. Young.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Hermann Schröder of Greifswald has been appointed Extraordinary Professor of Odontology.—*Halle:* Dr. Ernst Adolf Schmidt of Dresden, formerly of Bonn, has been appointed Professor of Medicine.—*Kiel:* Dr. Ernst W. Baum has been recognised as *privat-docent* of Surgery.—*Pavia:* Dr. Francesco Turpura has been recognised as *privat-docent* of External Pathology.—*Pisa:* Dr. Ferdinando Fontana has been recognised as *privat-docent* of Operative Medicine.—*Prague (German University):* Dr. A. Elschnig of Vienna has been appointed Professor of Ophthalmology, in succession to the late Dr. Czermak. Two new professorships of Laryngology and Experimental Morphology are about to be established.—*Strasburg:* Dr. Wilhelm Schumburg has been recognised as *privat-docent* of Hygiene.—*Turin:* Dr. Giuseppe Vicarelli has been appointed Extraordinary Professor of Midwifery.—*Vienna:* Dr. O. Löwi, *privat-docent* of Pharmacology, and Dr. O. von Fürth, *privat-docent* of Medical Chemistry, have been promoted to Extraordinary Professorships.

LONDON TEMPERANCE HOSPITAL.—On Tuesday, May 14th, the new out-patient hall of this hospital was formally opened by H.R.H. Princess Louise, Duchess of Argyll, in the presence of a large number of supporters of the institution. An out-patient department has been in active operation since the establishment of the hospital in 1873 and during last year 25,216 persons were treated as out-patients, but the buildings formerly used for this purpose had long been recognised as unsuitable and inadequate, and the council of King Edward's Hospital Fund for London initiated the new scheme and made generous contributions towards the cost which has amounted to £11,000, but of this sum £3,800 have yet to be raised before the structure is fully paid for. The new building has waiting-room accommodation for 200 patients and possesses convenient consulting rooms, operating theatre, dispensary, and other advantages. It has been erected according to the designs of Mr. Rowland Plumbe, F.R I.B.A. The board pleads for numerous and liberal remittances to meet the financial liability and to leave the new work unhampered in this respect.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the President, Vice-President, and Council held on May 7th the following examiners were elected for the ensuing year. Court "A," for Conjoint Licence, Diploma in Public Health, and Preliminary. Anatomy: Mr. Alexander Fraser and Dr. Bertram C. A. Windle. Surgery: Mr. Charles A. K. Ball, Mr. Alexander Blaney, Mr. F. Conway-Dwyer, and Mr. G. Jameson Johnston. Physiology and Histology: Dr. Denis J. Coffey and Mr. E. L'Estrange Ledwich. Pathology and Bacteriology: Mr. Arthur Hamilton White. Midwifery and Gynæcology: Mr. Frederick W. Kidd. Biology: Mr. John J. Burgess. Ophthalmology: Mr. Arthur H. Benson and Mr. Patrick W. Maxwell. Sanitary Law and Vital Statistics: Mr. Edward Francis Stephenson. Engineering and Architecture: Mr. Caleb J. Powell. Languages: Mr. L. J. Woodroffe. Mathematics, Physics, Dictation, and English Essay: Mr. J. W. Tristram. Dutch: Mr. John C. Pretorius. Court "B," for Fellowship, Licence in Surgery (for registered practitioners), Licence in Midwifery (for registered practitioners), and Licence in Dental Surgery. Anatomy: Mr. Patrick Joseph Fagan and Mr. Alexander Fraser. Surgery: Mr. Alexander Blaney, Mr. F. Conway-Dwyer, Mr. G. Jameson Johnston, and Mr. Richard Lane Joynt. Physiology and Histology: Dr. Denis J. Coffey and Mr. E. L'Estrange Ledwich. Pathology and Bacteriology: Dr. Arthur E. Moore and Mr. Arthur Hamilton White. Midwifery and Gynæcology: Mr. Frederick W. Kidd. Chemistry and Physics: Mr. Edwin Lapper and Mr. Robert J. Montgomery. Dental Surgery and Pathology: Mr. George M. P. Murray and Mr. William G. Story. Mechanical Dentistry: Mr. Daniel L. Rogers and Mr. Thomas F. Studley.

UNIVERSITY OF OXFORD.—In a Congregation held on May 7th the forms of statutes establishing a professorship in human anatomy and a professorship in pathology were promulgated and the preambles thereof approved (*nemine contradicente*).—The Board of the Faculty of Medicine will in and after Trinity Term, 1908, require from candidates for the Final B.M. examination, in addition to the certificates already required, a certificate showing attendance on a course of practical instruction in the administration of anæsthetics in a hospital approved by the Board.

LITERARY INTELLIGENCE.—"Crutches to Help Cripple Children" is a publication to be issued by Messrs. Bemrose and Sons on June 5th on behalf of the Lord Mayor's Cripples' Fund, and Sir William Treloar's charitable work ought to be assisted by considerable sales. Sir Douglas Straight is acting as editor of the literary section and Sir James D. Linton is responsible for the art section, each, of course, giving his services. Many well-known authors and artists have made gratuitous contributions, so that the result bids fair to be a literary and artistic success. The entire profits on the book are to be devoted to the fund now being raised by the Lord Mayor for the provision of homes to treat the tuberculous cripples of the poor, for which purpose a sum of £60,000 is required.

UNIVERSITY OF CAMBRIDGE.—Professor Nuttall will deliver his inaugural lecture in the anatomy theatre on May 22nd at 4.30 P.M.—The syndicate appointed for the purpose has submitted plans for a large extension of the chemical laboratory adjoining the new medical school. The cost is estimated at £13,500. The number of students in attendance at the beginning of the academical year was 384, and the pressure on the accommodation of the laboratory is very great.—The matriculations during the present term have brought the entry of freshmen for the year up to 1083, which is the largest on record.—The honorary degree of D.Sc. is to be conferred on Sir Thomas Fraser, F.R.S., professor of materia medica in the University of Edinburgh.—Mr. W. Bateson, F.R.S., St. John's, is again appointed deputy for the professor of zoology and comparative anatomy.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held on May 9th, Dr. G. F. Blandford, the President, being in the chair. 14 members were present. One vice-president and six directors were elected to fill the vacancies in the court. A cordial vote of thanks was passed to the editors of the medical journals for their courtesy in publishing the reports of the meetings of the society and endeavouring to make it better known to the members of the medical profession. The report for 1906 was adopted, and the following is a brief *résumé* of the work done by the society during the past year. The invested funds of the society amount to £98,960, from which is derived in interest the sum of £3114 4*s.* 11*d.*; £334 19*s.* were received in subscriptions and donations. The working expenses for the year were £217 10*s.* 5*d.* Amongst the annuitants of the charity—namely, 54 widows and 21 orphans—the sum of £3268 10*s.* was distributed, each widow receiving on an average £50 and £10 extra at Christmas and each orphan £10 and £3 extra at Christmas. During the year six widows who were in receipt of grants died. One, whose husband had paid a life subscription fee of £21, received £900. Five widows were elected during the year and on Dec. 31st there were 47 widows and 20 orphans in receipt of grants. One of the widows has been on the books since 1854 and has already received over £2000. Relief is only granted to the widows and orphans of deceased members who have paid their annual subscription for three years or are life members. During the year nearly 50 letters were received from widows of medical men who, in many instances, had been left practically penniless, asking for relief, but this had to be refused as their husbands had not been members of the society. The directors feel that they cannot too strongly urge upon the members of the medical profession, especially the younger ones, the desirability of joining the society. Particulars and application forms may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, W.

Asylum Workers' Association.—The annual general meeting of this society (founded in 1895 to improve the status of asylum nurses and attendants, to provide for them "homes of rest and nursing," and to enlist public sympathy in their work) will be held at the Medical Society's house, 11, Chandos-street, Cavendish-square, W., on Wednesday, May 29th, at 4 P.M., Sir William J. Collins presiding. The Bishop of Croydon, Sir John Batty Tuke, Sir J. Crichton-Browne, Dr. Robert Jones (President of the Medico-Psychological Association), Dr. G. H. Savage, and some of the Commissioners in Lunacy, have intimated their hope to be present. There will be a presentation of two gold and two silver medals, awarded by the association for long and meritorious nursing service. All interested in asylum work and workers are cordially invited to attend.

Post-Graduate Classes at Trinity College, Dublin.—From the announcement of these classes which appears in our advertising columns it will be seen that this year the course will begin on June 17th and will terminate on July 6th. Trinity College was the first Irish medical school to inaugurate a special course of instruction for medical practitioners. The arrangements of the classes this year are on lines similar to those which proved so successful in past years. The earlier part of each day is devoted to hospital work, while the afternoons are spent at clinical pathology, operations, x ray work, and the like. From a social point of view one of the attractive features of the Trinity course is the possibility of residing in College rooms and of dining on commons. As the number of rooms available is limited early application by those desirous of living in College is necessary. All the advantages and privileges of the course are open to qualified medical practitioners. The honorary secretary, Dr. A. R. Parsons, 27, Lower Fitzwilliam-street, Dublin, will be pleased to give any further information that may be desired.

The Society of Arts.—At a meeting of the Society of Arts, held on May 8th, Mr. Paul Schlicht read a paper on the Production of Coke and its Application in Domestic Fires. His chief object was to recommend the adoption in London of the American practice by which ordinary bituminous coal before being used as fuel was treated in a "by-product coke oven." With this apparatus coke of several different kinds could be obtained at will, including either a dense hard coke free from volatile matter and suitable for metallurgical purposes or a porous coke containing a certain amount of volatile matter which enabled it to burn brightly in a domestice fire-place. Coke was introduced about the year 1620, the primitive process of manufacture, which required from five to eight days, being the ignition of coal in mounds. The coking period in the modern regenerative oven has been reduced to 24 hours for metallurgical coke and to 18 hours for domestic and industrial cokes which did not require the complete expulsion of the volatile portions of the coal but were in fact preferable therewith on account of their flame-producing properties, greater porosity, and greater ease of ignition. Mr. Schlicht said that when a ton of raw coal was coked in a modern by-product oven, there were obtained about 14 hundredweight of coke suitable for domestic and metallurgical purposes, 100 pounds of coal-tar containing a great number of valuable constituents, and 5000 cubic feet of gas suitable for illumination, for heating, and as a source of power in gas engines. The gas used for lighting purposes in Boston, Baltimore, and some other American cities was now made almost entirely in by-product ovens. The coke made in these ovens was much superior to that obtained in the older processes of gas manufacture, being less porous than the latter and more uniform. After referring to the methods suggested by Sir William Siemens and Sir Charles Cookson for burning ordinary porous coke or anthracite in combination with gas Mr. Schlicht said that he had invented a method by which both an up-draught and a down-draught could be maintained in the same chimney, the former being in the centre and the latter next the sides. In a closed stove provided with such a chimney a coke or anthracite fire could be made to burn brightly for 26 hours. Several diagrams illustrating this invention were shown on the screen and also two photographs taken from the roof of the South-Eastern Railway Station in Cannon-street, E.C., showing that the atmosphere of London was comparatively pure in the early morning before the domestic fires were lighted for the day. In the subsequent discussion Dr. H. A. Des Vœux, speaking as a member of the Coal Smoke Abatement Society, expressed a fear that the prejudices of the population and their disinclination to accept new ideas would be a barrier to the use of coke in domestic fire-places. He related instances of this from his own experience as well as from that of Sir Charles Cookson. Dr. Owens also described some of the work done by the Coal Smoke Abatement Society.

The Proposed Union of London Provident Dispensaries.—On May 9th a conference of representatives of the provident dispensaries of London was held at 42, Grosvenor-gardens, the residence of Mr. Francis Buxton, who presided. The chief object of the conference was the discussion of plans for closer coöperation between provident dispensaries and to consider their relationship to the medical profession, the hospitals, and the three chief hospital funds. The following resolution was adopted :—

> That coöperation between all the provident dispensaries of London is desirable, whereby their aims and work may be advanced, reciprocal action between them and hospitals be promoted, and the transference of members from one dispensary to another be made more general.

A provisional committee, consisting of Sir William Bousfield, Mr. Francis Buxton, Sir Edward Brabrook, Mr. Carlton Lambert, Colonel Montefiore, Mr. H. J. Powell, and Dr. W. Winslow Hall, was elected to carry out the objects of the resolution and to arrange for the appointment of a consultative council representative of all the provident dispensaries in London.

Royal College of Physicians of Edinburgh.—A quarterly meeting of the Royal College of Physicians of Edinburgh was held on May 7th, Dr. C. E. Underhill, the President, being in the chair. The Registrar reported that since the last quarterly meeting 41 persons had obtained the Licence of the College by examination. Sir John Batty Tuke was unanimously re-elected representative of the College on the General Medical Council for a period of five years from May 7th, 1907. Dr. John Playfair was re-elected as representative of the College on the conjoint committee of management of the triple qualification. It was intimated that Dr. Lewis C. Bruce had been appointed Morison Lecturer for the ensuing session. Dr. Harry Rainy was recognised as a lecturer on Practice of Physic. The Freeland-Barbour Fellowship was awarded to Mr. Ninian Bruce, B.Sc. By vote of the College, Edmund McDonnell, a Licentiate of the College, was expelled from the College and deprived of his licence to practise, as granted by the College, and of all his rights and privileges as Licentiate.

Westminster Hospital Festival Dinner.—At the festival dinner in aid of the funds of Westminster Hospital held on May 10th in the hall of the Inner Temple, under the presidency of the Lord Chancellor, and at which Sir Henry Campbell-Bannerman and a large and distinguished company were present, Sir John Wolfe Barry, who responded to the toast of "Prosperity to Westminster Hospital," said that with the utmost economy the expenditure of the charity could not be kept below £19,000 per annum. The hospital had an income of £3000 per annum from house property, received £6000 per annum from the three hospital funds, and the annual subscription amounted to only £1500. If the hospitals of London could not be run upon voluntary charity but were put under the administration of local authorities they would lose the highest skill in the medical and surgical world which they now commanded. The medical profession, he believed, would not give their services to rate-aided institutions in the same way that they now did to hospitals supported by voluntary contributions. During the evening subscriptions to the amount of £6500 were announced and it was stated that two gentlemen had promised to give £1000 each if three others would make a similar offer within the next six months.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent Garden, London, W.C.

A Synopsis of the British Pharmacopœia (1898). By H. Wippell Gadd, F.C.S., Lecturer on Pharmacy at the University College, Exeter; Director of the Laboratories of Evans, Gadd, and Co., Limited. Sixth edition, containing a Synopsis of the Poison Laws of Great Britain and Ireland. Price 1s. net.

FROWDE, HENRY, Oxford University Press, London, New York, and Toronto.

The World's Classics. Price 1s. net. CXII. The Works of the *Right Honourable Edmund Burke*. Vol. IV. With an Introduction by F. W. Raffety.—CXXIV. Lectures on the English Comic Writers. By *William Hazlitt*. With an Introduction by R. Brimley Johnson.—CXXV. The French Revolution. A History. By Thomas Carlyle. With an introduction by C. R. L. Fletcher. In two volumes.—CXXXIII. The Golden Treasury of the Best Songs and Lyrical Poems in the English Language. Selected and arranged with Notes by Francis Turner Palgrave. Together with Additional Poems (to the End of the Nineteenth Century).

HARRISON AND SONS, St. Martin's-lane, London.

Reports of the Commission appointed by the Admiralty, the War Office, and the Civil Government of Malta for the Investigation of Mediterranean Fever under the Supervision of an Advisory Committee of the Royal Society. Part VI. (April, 1907). Price 3s. Part VII. (April, 1907). Price 5s.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Handbuch der Pathologie des Stoffwechsels. Herausgegeben von Carl von Noorden, Wien. Zweite Auflage. Zweiter Band. Price M.24.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

A Study of the Human Blood-Vessels in Health and Disease. A Supplement to "The Origin of Disease." By Arthur V. Meigs, M.D., Physician to the Pennsylvania Hospital. Price 21s. net.

LENG, JOHN, AND CO., LIMITED, Dundee.

Pulmonary Tuberculosis, its Predisposition, Environment, and Treatment. By David Crichton, L.R.C.S.E., L.R.C.P.E., L.F.P.S.G. Price not stated.

LEWIS, H. K., 136, Gower-street, London, W.C.

Modern Methods of Diagnosis in Urinary Surgery. By Edward Deanesly, M.D., B.Sc. Lond., F.R.C.S., Hon. Surgeon, Wolverhampton and Staffordshire General Hospital. Price 3s.

The Practitioner's Medical Dictionary. Based on Recent Medical Literature. By George M. Gould, A.M., M.D., Author of "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences," "The Student's Medical Dictionary," &c. Price 21s. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, E.C. (CHARITY ORGANISATION SOCIETY, Denison House, Vauxhall Bridge-road, London, S.W.)

The Annual Charities Register and Digest, 1907. Sixteenth edition. By C. S. Loch, Secretary to the Council of the Charity Organisation Society, London. Price 5s. net.

Royal University of Ireland. The Calendar for the Year 1907. *Price not stated.*

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Notification of Births Bill.

THE Notification of Births Bill, which Lord ROBERT CECIL introduced into the House of Commons to deal in some measure with the problem of infantile mortality, has been read a second time. It was allowed to go through unopposed. Under the new rules of procedure it is automatically referred to a standing committee.

The Vaccination Acts.

The Personal Rights Association has petitioned the *House of Commons* to repeal the Vaccination Acts.

Accidents at Mines and Quarries.

The general report and statistics for 1906 on mines and quarries show the number of accidents occurring in them. *It has just been* laid on the table of the House of Commons and will be issued as a Parliamentary paper in due course.

Experiments on Living Animals.

Mr. HERBERT SAMUEL, the Under Secretary of State for the Home Department, on May 8th moved in the House of Commons for a return showing the number of experiments *on living* animals during the year 1906 under licences granted under the Act 39 & 40 Vict., and distinguishing *the nature of* the experiments. The return was granted.

The Vaccination Bill.

Sir JOHN BATTY TUKE has *given notice that he* will move the rejection of the Vaccination Bill after the motion for its second *reading is* made.

The Rejection of Aliens.

One of the tables appended to the first annual report on the Aliens Act, 1905, shows that during the year 1906 leave to land was withheld by the immigration officer in 232 cases on medical grounds. In 161 of these cases appeals were lodged, and of them 69 were successful, whilst 92 failed. The total number of *rejections* on the ground of want of means as well as on medical grounds was 493. This total is reached after the successful appeals against the decision of the immigration officers have been eliminated. In the case of transmigrants who were proceeding to destinations beyond the United Kingdom 1432 persons were *rejected*. 1419 of these *rejections* were on medical grounds and seven on the ground of insanity.

The Royal Commission on Vivisection.

The minutes of evidence *taken before the Royal Commission on* Vivisection during February and March, 1907, are published in the form of a Parliamentary Blue-book. Amongst the witnesses whose evidence is recorded in it are Mr. W. H. POWER, principal medical officer to the Local Government Board; Professor A. R. CUSHNY, University College, London, who represented the committee of medical and scientific societies; Miss A. KENEALY, representing the Parliamentary Association for the Abolition of Vivisection; Lord RAYLEIGH, President of the Royal Society; Sir R. DOUGLAS POWELL, President of the Royal College of Physicians; and Dr. FREDERICK TAYLOR, senior physician to Guy's Hospital.

HOUSE OF COMMONS.

WEDNESDAY, MAY 8TH.

Vaccination Fees.

Sir WILLIAM BULL asked the President of the Local Government Board what provision he proposed to make for the compensation of the vaccination officers who would lose the greater part of their fees if his Bill passed into law.—Mr. JOHN BURNS furnished the following written reply: I *do not* propose to make provision on this subject in the Bill.

Butter and Margarine Bill.

On the resumed debate on the motion for the second reading *of* the Butter and Margarine Bill,

Mr. ASHLEY expressed the hope that some provision would be inserted in the Bill whereby it would be made compulsory to label butter substitutes with a name in which the word "butter" did not occur, so that consumers should be in no doubt as to what they were getting.

Lord WILLOUGHBY DE ERESBY, in *supporting* the Bill, *said that it* was desired by agriculturists throughout the country. He hoped steps would be taken to prevent butter substitutes being *sold which* contained as much as 24 per cent. of moisture.

Mr. CROSS observed that to permit *butter substitutes to be sold* containing 24 per cent. of moisture would be a dangerous thing for the public and would subject *farmers* to an *unfair competition*. There might be many circumstances in which butter substitutes might be sold to an unguarded *public*. *He had received* communications from many farmers' associations in Scotland drawing attention to this provision *in the Bill and taking exception to it*.

The Bill was then read a second time.

THURSDAY, MAY 9TH.

The Board of Education and a Medical Department.

Mr. RAMSAY MACDONALD asked the *President of the Board of Education* whether he proposed to create a medical department in connexion with the Board of Education so as to supervise and coördinate local work done in connexion with the medical inspection of school children; and whether, in order to create such a department, legislation was necessary.

Mr. WEDGWOOD also asked the President of the Board of Education whether, *in view* of the fact that it was not competent *for a private Member to move* in committee on the Education (Administrative *Provisions*) Bill for the establishment of a permanent medical department at the Board of Education, he could say now what medical machinery the Board intended to adopt to carry out the proposals of the *Bill*; and, if he could not give this information, whether he would say on the advice of what experts *or* reports he intended to act.—Mr. MCKENNA said in reply to *both* questions: I regret I cannot add anything to an *answer* which I have already given to the effect that it would be premature to decide what machinery will be required by the Board of Education on the Education (Administrative Provisions) Bill becoming law; but *my honourable* friends may rest assured that I am *fully* alive to the importance of this question. The staff of the Board of Education can be increased with the consent of the Treasury *without legislation*. I may add that the Board's staff already includes two medical men.

MONDAY, MAY 13TH.

Vaccination and Education.

Mr. BOWLES asked *the First* Lord of the Treasury whether he would consider the desirability of introducing legislation to assimilate the practice with regard *to compulsory State education to that now* existing in the case of compulsory State vaccination, under which a conscientious objection *or* one fine *absolved the* parent from the consequences of not complying with the statute.—Mr. ASQUITH (on behalf of Sir Henry Campbell-Bannerman) *replied*: *I do* not see any connexion in principle between the two matters referred to.

The Prevention of Tuberculosis.

Sir FRANCIS CHANNING asked the *President of the* Local Government Board whether he had *considered* the resolutions passed at the meeting of the National Association for the Prevention of Consumption and other Forms of Tuberculosis urging immediate action in Parliament in pursuance of the recommendations in the recent report of the Royal Commission on Tuberculosis; and whether he was now able to state what steps would be taken *to give effect* to those recommendations.—Mr. JOHN BURNS said in reply: I am aware that resolutions have been passed at the meeting referred to, but I have not at present received *copies* of them. The recommendations of the Royal Commission relate to *matters* of much moment, and I am not at present in a position to make any definite statement with regard to the action which should be taken in consequence *of them*. They are, however, receiving my consideration.

The Royal College of Surgeons of England.

Sir WILLIAM COLLINS asked the *Prime Minister* whether he had *now* considered the *memorial presented* to him last session on behalf of the Members of the Royal College of Surgeons of England, asking him to take such steps as might secure to Members some voice in the management of the College and its *property*; whether any representations had been made by the Privy Council to the College of Surgeons and with what result; and whether he would lay upon the table of the House copies of any communications which had passed.—Sir HENRY

ROYAL EAR HOSPITAL, Dean street, Soho, W.—House Surgeon for six months. Salary at rate of £40 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant to the Clinical Pathologist and Assistant Anæsthetists (females).

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

ST. BARTHOLOMEW'S HOSPITAL.—Lectureship in Anatomy.

ST. GILES, CAMBERWELL, WORKHOUSE, East Dulwich.—Locum Tenens for Medical Officer for four weeks. Salary at rate of 4 guineas per week, with board, lodging, and washing.

ST. MARY'S HOSPITAL, Paddington, W.—Dental Surgeon. Also Resident Casualty House Surgeon. Salary £100 per annum, with board and lodging.

ST. THOMAS'S HOSPITAL.—Assistant Physician.

SELBY, LEEDS TUBERCULOSIS ASSOCIATION SANATORIUM, Gateforth.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Salary at rate of £70 per annum, with residence, board, and washing.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months Salary at rate of £50 per annum, with board, lodging, and laundry.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square W.—House Surgeon. Salary at rate of £75 per annum, with residence, board, and laundry.

UNIVERSITY OF LONDON.—Sharpey Physiological Scholar. Emolument of £150 a year.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea S.W.—House Physician for six months. Honorarium of £30, with board and lodging

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing. Also Senior House Surgeon, unmarried Salary £110 per annum, with board, residence, and washing.

WEST HAM HOSPITAL, Stratford, E—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, &c.

WEST HARTLEPOOL, CAMERON HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, rooms, and washing.

EST LONDON HOSPITAL, Hammersmith-road, W.—Officer-in Charge of X-Ray Department

ESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

IGAN, ROYAL ALBERT EDWARD INFIRMARY.—Junior House Surgeon Salary £100, with apartments, washing, and rations

NCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £65, rising to £75, with board, residence, &c. Also Honorary Physician

ORCESTER COUNTY AND CITY ASYLUM.—Locum Tenens. Salary 3 guineas per week.

ORCESTER GENERAL INFIRMARY.—House Physician. Salary £20 per annum, with board and residence.

E Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Cheltenham, in the county of Gloucester, and at Mid-Calder, in the county of Edinburgh.

Births, Marriages, and Deaths.

BIRTHS.

PER.—On May 9th, at Sutton Court-road, Chiswick, the wife of Bertram Cooper, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

AHAM.—On May 1st, at Gwydir House, Cambridge, the wife of J. C. W. Graham, M.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

ACMILLAN.—On May 12th, at Prestwich, Lancashire, the wife of David Macmillan, M.D., of a son.

DEATHS.

ARNES.—On May 12th, at Bernersmede, Eastbourne, Robert Barnes, M.D.

ARNICOT.—On May 13th, at 40, Queen-street, Hitchin, Ethel, the wife of Joseph Barnicot, M.D.

RROWS.—On May 8th, at Exton Mansions, Hove, William Seymour Burrows, M.R.C.S., J.P.

ODSHAM.—On May 12th, at Weybridge, John Mill Frodsham, M.D., J.P., aged 72 years.

LLAND.—On May 9th, at Rollestone House, Horncastle, Robert Jalland, M.R.C.S. Eng., L.R.C.P. Lond., aged 70 years.

ENNAN.—At 35, Mayfield road, Edinburgh, on the 12th May, Eileen Ivy Theodora, aged 2½ years, only child of Dr. Theodore Shennan and Mrs. Shennan (née Minnie Green, L.R.C.P. & S. Edin.).

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE GOLDEN FLEECE.

WE remarked in these columns last week that in the above-named publication we were accused quite untruthfully *of sending out* advance copies of THE LANCET containing the pronouncement concerning the use of alcohol which the pamphlet sent to us for review proposed to analyse and to refute. We have now received a letter from Mr. Charles Smith, F.S.S., secretary of the British Temperance League, concerning "the medical statement in favour of alcohol" (as he terms it) which runs as follows:—

To the Editors of THE LANCET.

DEAR SIRS,—On p. 1335 of THE LANCET for the 11th inst., commenting on my reply to the above, you say: "We are accused quite untruthfully of sending out advance copies of THE LANCET *containing the pronouncement.*" Have you not here erected a windmill of the type easily demolished which you attribute to me, and then proceed to demolish it with great satisfaction as though you were demolishing an argument of mine? *Kindly look through* the pamphlet again, and you will find that it does not accuse you of anything. It runs: "Advance copies (from THE LANCET) were *issued before the day of* publication and were widely inserted in the London and provincial newspapers."

And that statement is strictly true. The day of publication of THE LANCET containing this alcohol statement is Saturday, March 30th. I enclose you herewith a sheet of the Yorkshire *Telegraph and Star* for Friday, March 29th, containing this manifesto from your columns, *citing you as its authority*, and being an exact facsimile of the document as it appeared in your *columns the following* day, even to the division into pars. and the order of the names of the signatories.

It is, as you will observe, suitably introduced with three lines of big type: "Doctors and Alcohol," "Important Manifesto," "Counterblast to Teetotal Statements." This paper was on sale in the streets of Sheffield at 3 o'clock on Friday afternoon, March 29th.

Who distributed these advance copies to the press I know not, but my information is that they were widely posted from London early on Thursday, March 28th, *in some cases being delivered* that day.

Yours very faithfully,

29, Union street, Sheffield, May 13th, 1907. CHARLES SMITH.

There is no need *for us to look through "The Golden Fleece"* again: no one can issue advance copies of THE LANCET *except ourselves, and* we repeat that the accusation is untrue. Mr. Smith's information *that copies of* THE LANCET *were widely posted from* London early on Thursday, March 28th, is, we are glad to say, correct, but it has not the significance which he calmly gives to it. Friday, March 29th, happening to be Good Friday, *we went to press* one day earlier than usual. No advance copies of THE LANCET containing the *pronouncement* upon alcohol were issued by us, and no one but ourselves can *issue* advance *copies. The statement* in Mr. Smith's letter which he qualifies as "strictly true" is *consequently* quite untrue. The cause of temperance is *one* which we have steadily and consistently supported *in our columns, and it is one* that ought not to lead to loose speaking and writing by its official advocates.

CONSULTANTS' FEES.

To the Editors of THE LANCET.

SIRS,—Allow me to ask *you* the *following question—viz.: When* a consultant is called in to see a patient with the medical man in attendance on *the case is the medical* man in attendance responsible for the payment of the consultant's fee? The question might depend on "*who called the consultant in.*" In my particular case (as a matter of fact) the son of the house telephoned *to the consultant from the* patient's house and asked the consultant to call and I would wait until he came. The consultant *now* wants me to pay the fee *to* him and I am to get it from the patient. There is no question about the fee *being forthcoming*, but *I am not of opinion that* the ordinary medical attendant is responsible for the *consultant's fee* and I shall *be* glad of an expression *of opinion* on the subject. With apologies for troubling you.

I am, *Sirs*, yours faithfully.

May 12th, 1907. ENQUIRER.

⁂ The *usual* course is for the *patient* or his friends to have the consultant's fee in readiness. It is *generally handed* to him by the general practitioner, but in our *opinion* the patient, and *not* the *general practitioner*, is responsible *for* the fee.—ED. L.

A GARBAGE MONGER HEAVILY FINED.

AT the Mansion *House recently* John Copeland of Glenluce, Wigtownshire, was prosecuted by the public health *department of the City* as the person to whom two carcasses of pigs had belonged which had been *deposited for sale at Leadenhall* Market and which were unfit for human consumption. The defendant *did not appear and counsel* representing him pleaded guilty on his behalf. The Alderman, Sir David Evans, *said that the defendant* was not a novice and marked his view of the offence by *inflicting a fin* of £30, with £7 7*s.* costs. It is to be hoped that selling diseased animals is not quite so profitable that a fine of this magnitude can be readily paid from the profits derived from other similar dealings which escape detection or which are of not so serious a character as to attract attention. Dealers in food which endangers the health or the lives of others deserve to be prevented from carrying on transactions in the public markets for a prolonged period by some means corresponding to the "warning off" which at times removes from racecourses those who cheat their fellow men.

LOATHSOME BED-STUFFING.

To the Editors of THE LANCET.

SIRS,—We were glad to notice extract from your issue regarding impure bedding. We enclose a copy of our senior partner's little publication; second issue (six or eight years ago); see page 44 *et seq.* on same subject. We question very much if some who use the word sterilised know what it means. We think prosecution under the Merchandise Act should follow false advertising.

We are, Sirs, yours faithfully,

Edinburgh, May 8th, 1907. MARTIN AND SON.

PS.—Old clothes from Scotland go over to Ireland and after Pat has worn and patched them they come back to Greenock in bales to be torn up, unwashed, and sold for bedding!

⁂ The publication referred to is entitled "About Beds and Bedding," and it contains a good deal of practical and historical information on the subject. In regard to loathsome bedding the writer rather aptly, we think, quotes Dickens's story of the "Celebrated Sassage Shop" in the "Pickwick Papers." Halves of buttons had been found in the sausages, and buttons have also been found, it is stated, in bed-mattresses.—ED. L.

A REMARKABLE TABLET.

Lady (K.) Lawson has sent us an interesting photograph of a tablet erected in a Guernsey church to the memory of Daniel and Susanne Falla and their younger son, Thomas Falla. The following is a translation of the latter part of the inscription, which is in French:—

> This Monument is erected to their memory, and to that of their younger son, Thomas Falla, Lieutenant in the 12th Regiment of Infantry, who died at the Siege of Seringapatam, the 6th April, 1799, aged 18 years 6 months and 25 days, from the effects of a wound from a cannon ball weighing 26 lbs., which had located itself between two bones in his thigh. The said wound becoming considerably inflamed the regimental surgeon, although having examined it, ignored that a bullet was enclosed, and it was only after his death, which occurred six hours after the event, that it was extracted, to the surprise of the whole army.

Lady Lawson has asked our opinion upon the occurrence thus described, but she has since supplied us with the explanation by referring us to the well-known memoirs of Captain George Elers, where the following description of the fatal injury to Lieutenant Falla is given:—

> Among the casualties in my regiment was the death of poor Falla from a cannon-ball, a twelve-pounder, from the fort of Seringapatam, three miles distant from our trenches. It rolled in and buried itself in poor Falla's groin. It was the most remarkable wound ever seen, and the general conversation of the army, for the shot was not to be seen, the flesh swelling completely over it.

It will be seen that the inscription on the tablet is totally incorrect, while the mystery implied by mention of the "two bones" in the victim's thigh disappears when we learn that the wound was not in the thigh at all. The size of the ball is more than doubled in the account on the tablet and Captain Elers's measurement may be taken as the right one. There could not have been 26 pounders employed in the siege of Seringapatam, while a 12-pound shot might conceivably bury itself among the abdominal contents and escape attention unless actually searched for. The episode after reading Captain Elers's account becomes possible, though it is none the less extraordinary. Captain Elers says nothing about the regimental surgeon having examined the wound, and we suspect that to be a further inaccuracy on the part of the author of the inscription. The medical attitude was probably one of inaction in a case where absolutely nothing could be done. The fatal nature of the injury—described in the inscription in the following words, "The said wound becoming considerably inflamed"!—was probably perceived at once by the surgeon, operative proceedings being much more limited in those days than they are now, and the unfortunate young soldier was left to die in peace.

◆

Alia Mores.—The best articles we know are those on Intoxications in vol. ii. of Allbutt's "System of Medicine," and in Osler's "System of Medicine." Most of the standard works on Insanity—e.g., Craig's "Psychological Medicine"—deal with drug habits.

Præcipitin.—Our correspondent will find the following paper useful: Welsh and Chapman: Proceedings of the Royal Society, B. vol. lxxviii., 1906. He might also refer to THE LANCET, April 6th, 1907, p. 959.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.). Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (25th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

FRIDAY (24th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Papers:—Dr. F. de Havilland Hall: Two Cases of Prolonged Pyrexia.—Dr. Gossage: A Case of Partial Heart Block.—Dr. F. W. Price: Foreign Bodies in the Bronchi. 9.30 P.M.: Annual General Meeting.

BRITISH ELECTROTHERAPEUTIC SOCIETY (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Council. 8.30 P.M.: Dr. Doumer (Lille): The Fundamental Principles of Electrotherapy. An Extraordinary General Meeting will be held for the purpose of winding up the Affairs of the Society.

SATURDAY (25th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (University of Edinburgh).—9 30 A.M.: Card Specimens and Cases will be shown. 10 A.M.: Papers will be read and Demonstrations given.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Dr. Russell.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. W. Ewart: Clinique. (Medical.) 5.15 P.M.: Lecture:—Mr. W. H. Clayton-Greene: Suppression of Urine and Anuria.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. A. Wylie: Pharynx.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Sir W. Gowers: Vagal Attacks and Brain Faints.

WEDNESDAY (22nd).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. P. Paton: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. H. French: The Vaccine Treatment of Acne and Some Points in the Treatment of Some other Common Maladies.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye. 2.15 P.M.: *Special Lecture*:—*Dr. F. Taylor*: Bronchiectasis.

THURSDAY (23rd).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Mr. S. Edwards.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. A. P. Beddard: Diabetes.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel). 4.30 P.M.: Special Demonstration of Skin Cases (Dr. G. N. Meachen).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

Charing Cross Hospital.—4 P.M.: Dr. I. Bruce: Demonstration (Electrical). (Post-Graduate Course.)

Hospital for Sick Children (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Mr. Parsons: Convergent Squint.

Royal Institute of Public Health (37, Russell-square, W.C.).—5 P.M.: Special Lecture:—Prof. J. Penberthy: The Veterinary Aspect of the Tuberculosis Problem.

University of Birmingham, Faculty *of* Medicine (Medical Lecture Theatre).—4 P.M.: Post-Graduate Lecture:—Prof. Leith: The Widal Reaction, its Present Position and Value.

FRIDAY (24th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—X Rays.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. R. Clarke: Clinique. (Eye.)

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. 3.15 P.M.: Special Lecture:—Mr. McGavin: Epithelioma of Penis and Precancerous Conditions.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Sir V. Horsley: Surgery of the Nervous System.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Dr. A. Wylie: Pharynx.

SATURDAY (25th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations.

London School of Clinical Medicine (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

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It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 16th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 10	29·80	S.	...	117	73	51	55	61	Fine
" 11	29·77	S.	—	123	77	59	60	64	Fine
" 12	29·80	S.E.	...	127	62	59	59	66	Fine
" 13	29·86	S.W.	0·05	99	65	56	56	57	Raining
" 14	29·79	N.E.	0·12	77	58	53	50	53	Overcast
" 15	29·82	N.E.	0·04	111	61	50	49	55	Fine
" 16	29·93	N.W.	0·01	101	56	49	48	52	Fine

During the week marked copies of the following newspapers have been received:—*Chatham, Rochester, and Gillingham News, Standard, Daily News, Daily Chronicle, Belfast News, Daily Mail, Tribune, Western Mail, Peterborough and Hunts Standard, Hull Eastern Morning News, Bury Guardian, Daily Express, South London Press, Morning Post, Preston Guardian, Durham Chronicle &c.*

A Clinical Lecture

ON

ABDOMINAL TUMOURS ASSOCIATED WITH DISEASE OF THE TESTICLE.

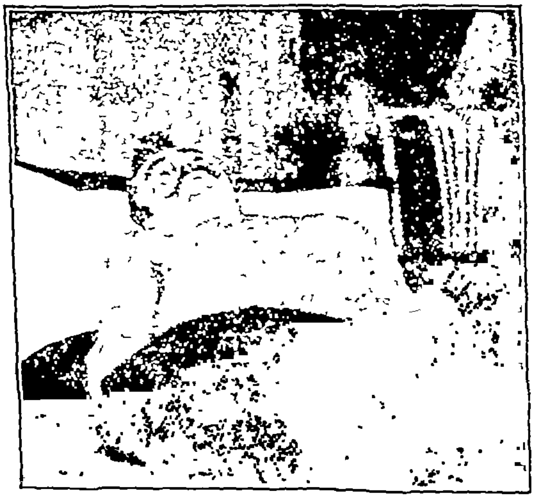
Delivered at the Radcliffe Infirmary, Oxford, on March 20th, 1907,

BY WILLIAM OSLER, M.D. OXON., F.R.S.,
REGIUS PROFESSOR OF MEDICINE AT THE UNIVERSITY OF OXFORD.

GENTLEMEN,—Not infrequently the diagnosis of an obscure affection of the abdomen is determined by an examination of the testicles. More than once in my experience the nature of a peritonitis or of an abdominal tumour has been cleared up by finding a tuberculous orchitis; or in syphilis gummata may occur at the same time in the liver and in the testicles. But it is more particularly in malignant disease of these organs that abdominal features are met with, and the case before you illustrates in a singularly complete manner many of the peculiarities of this association.

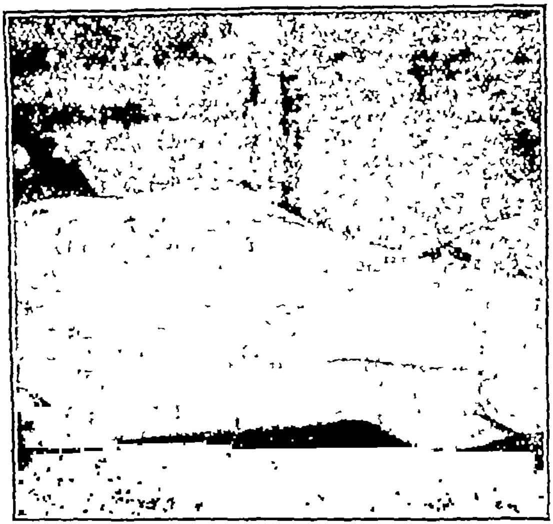
This well-built fellow, aged 22 years, with a suspicious pallor of the face, was sent by Mr. R. R. Hatherell from Kingston Bagpuze and Mr. Parker has kindly sent him for my clinique. When seven years of age he fell from a tree and injured the left testis which was transfixed by a small spike. Ever since it has been a little enlarged, but it gave him no trouble until about six months ago, when it began to grow and to be a little painful. A few weeks ago he noticed a swelling of the abdomen. He has lost about 8 pounds in weight. The left testicle is of about the size of a small orange, round, and firm; the epididymis is enlarged and there is a gland of the size of a filbert just above it, which I thought at first was the cord. There is no sign of the old injury. In both inguinal grooves the lymph glands are enlarged and hard, forming visible tumours. The abdomen presents a very remarkable appearance (as illustrated in the accompanying illustrations,[1] Figs. 1 and 2). A prominent mass occupies the left upper quadrant, lifting the costal border, and causes bulging of the eighth, ninth, and tenth ribs. Below it reaches to the level of the navel and to the right a little beyond the linea alba. It appears to descend slightly on deep inspiration, and on close inspection there is a shock-like pulsation in the whole mass and in the splenic region. On palpation the mass is very solid and immoveable, emerges directly beneath the costal border, and extends to the level of the navel, but below the limits cannot be accurately made out. To the right it reaches to the middle line but the epigastrium itself is not occupied nor does the liver appear to be enlarged. Passing deeply in the flank it cannot be grasped between the hands and moved up and down like a renal or splenic tumour. It has rounded outlines without nodules and is painless on pressure, firm, and has a feeble pulsation, not expansile, but just such as one feels in deep-seated abdominal growths. The throbbing of the abdominal aorta is felt just above the navel. There are enlarged glands both above and below Poupart's ligament on both sides. There is an enlarged gland just above the left clavicle.

FIG 1



View of abdominal tumour from the front showing the high position.

FIG. 2



View of abdominal tumour from the side.

Two very common events in connexion with malignant disease of the testicle are illustrated by this case—the influence of trauma (which in some statistics has been as high as 50 per cent. of the cases) and the very rapid generalisation. Following an injury the tumour may appear in a few months, or, as in this patient, 15 or more years may elapse. It is well to bear in mind that the course may resemble an acute orchitis. Some years ago I saw with Dr. McGill of Catonsville, a young man, aged 19 years, who had bruised one testis on his bicycle. This was followed by swelling, gradual enlargement, and the tumour persisting the organ was removed. It contained blood and much grumous matter thought to be pus. About a year later he began to fail in health and when I saw him he presented two large tumours in the upper abdominal region, evidently connected with the liver. There was fluctuation and the masses felt like sacs of pus. An exploratory operation showed the condition to be a rapidly growing soft sarcoma of the liver.

The generalisation is, in the majority of cases, through the lymphatics, and, as in this case, may take place very early. I have not sufficient experience with tumours of the testicle to say on simple examination just what variety this is, though from its firmness in places and its elastic tendency in others it is quite possible that it belongs to the remarkable group of embryomata or teratomas. I wish particularly to bring before you the characters of the abdominal tumour in malignant disease of the testicle. There are two groups of cases: (1) the tumour is a secondary involvement of the lymph glands, as in the case before you; and in the other (2) the tumour is primary involvement of the retained testis in a monorchid or a cryptorchid. To understand the relation of the secondary tumours you must bear in mind that the lymphatics of the testicles discharge very high up into the aortic lumbar glands—on the left side into three glands to the left of the aorta just below the renal artery, on the right side into from three to five glands to the right of the vena cava and between it and the aorta. The secondary tumour is, therefore, above the level of the navel, and usually begins in the upper quadrant of the abdomen on the

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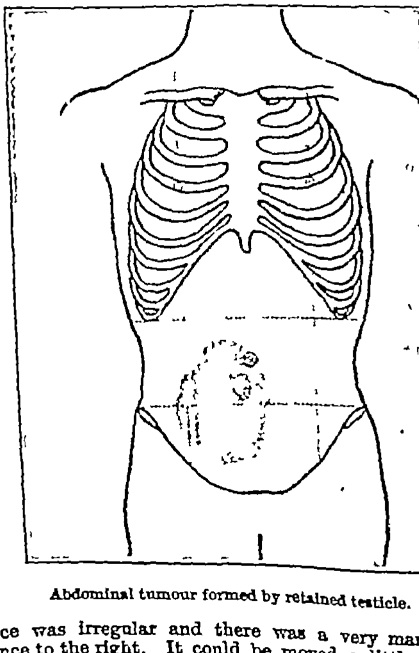
[1] These photographs were taken by Dr. R. H. Sankey on April 9th. The tumour has grown very much.

resistance on palpation. Occupying the central upper portion of the abdomen is a solid, irregular mass; to the right it extends far over into the flank, below to the level of the spine of the ilium. To the left it does not extend so far, but in the epigastric and upper umbilical regions it extends as far as nipple line. There is bulging above the navel. It can be felt most pronouncedly midway between the navel and ensiform cartilage. Outline between mass and liver not clearly defined. It is very resistant and immobile and does not descend with inspiration or posture. On bimanual, the mass seems an unusually deeply placed tumour. Everywhere gurgling in the intestines can be felt, but the edge of the liver is not palpable. The right rectus is more rigid than left. The upper level of liver dulness is on a level with the upper margin of sixth rib and extends to costal border." The patient was discharged unimproved on March 28th, 1898.

In the second group, not nearly so common, the tumour originates in the retained testes of a monorchid or a cryptorchid. The following cases have come under my observation; two of them in the surgical clinique of the Johns Hopkins Hospital my colleague Halsted allowed me to demonstrate to my clinical class.

CASE 1. *Cryptorchismus; abdominal tumour; diagnosis of sarcoma of retained testicle; removal; rapid recurrence.*—A man, aged 29 years, Surgical No. 2900, was seen in Dr. Halsted's ward with Dr. Bloodgood on March 21st, 1894. The patient was a resident of Maryland and had been at several cliniques seeking advice as to the nature of his trouble. He was a medium-sized, slightly built man, somewhat effeminate looking in the face, with a fair-sized moustache but with very little hair on the cheeks. He had been pretty well up to six or eight weeks ago, when he noticed for the first time a lump in his abdomen, since which time there had been gradual enlargement and he had lost in strength and weight. He looked pale; there was no fever; the pulse was good. The abdomen was uniformly distended, having the appearance of an ordinary ascites; the superficial veins were not enlarged. On palpation it was moderately tense and fluctuation was readily obtained. In the middle line on deep palpation a firm, hard body was touched which was felt to occupy the right lower quadrant of the umbilical region and the greater portion of the hypogastric, extending, however, much more to the right than to the left side. The surface was irregular and there was a very marked prominence to the right. It could be moved a little from side to side, but there was too much fluid in the abdomen to make any satisfactory bimanual palpation. It was hard and resistant and in the process of dipping for it with the tips of the fingers it evidently yielded and could be depressed from one side to the other. The scrotum was empty but somewhat distended; the inguinal canals were open and the ascitic fluid passed directly into the sac of the scrotum. Examination by the rectum revealed the presence of a hard indurated mass on the right side. Considering that the patient was a cryptorchid and the known proneness of the retained testicle to new growth, the diagnosis of sarcoma of one of the intra-abdominal testicles was made. On the 24th Dr. Halsted operated; he removed the ascitic fluid and found a tumour formed by the enormously enlarged and sarcomatous right testicle. The organ had retained its shape; a groove separated the body from the greatly enlarged epididymis. The tumour was greyish-white in colour, firm and hard in some places, soft and partially cystic in others. A portion of growth on the pelvic floor could not be removed. The patient left the hospital on April 14th very much improved in his general health, but returned on May 12th with signs of recurrence.

FIG. 4.



Abdominal tumour formed by retained testicle.

CASE 2. *Monorchid; tumour in the right side of abdomen; ascites.*—The patient was a married man, aged 46 years. Surgical number 2992. He was admitted on April 17th, 1894. His family history was negative. His personal history was negative, except for alcohol to excess until 41 years of age. The present illness began about eight months ago with a sharp sudden pain in the left side of the abdomen of very excruciating character, which lasted about five minutes. This was followed by a soreness for several days in the left ilio-costal space. About three weeks after this attack he noticed a hard tumour in the left side of the abdomen which was painful on pressure. For some months prior to September, 1893, the patient had noticed increasing difficulty in moving his bowels, and this had progressively increased, and now only strong purges or enemata were successful. About December, 1893, he had pain around the neck of the bladder on micturition; now it occurred only occasionally. The tumour had not increased perceptibly in size. He said he had become paler and had probably lost weight. There had never been any blood in the urine or stools. The patient was an emaciated, cachectic man, with pale mucous membranes; the radial pulse was small and weak, with the vessel wall decidedly sclerosed. There was no general lymphatic enlargement. The abdomen was distended and prominent, particularly in its lower half, where two tumour masses were seen, one in the right inguinal region and the other more to the left of the navel. The abdomen was soft in its upper half, but below and to the right of the navel was felt a large, hard tumour with irregular margins, painful on deep pressure. The small nodule in the diagram corresponds to the epididymis and was more painful than the rest of the mass. The growth was not moveable nor was it adherent to the skin. There was much fluid in the abdomen, which had been increasing since admission. The difficulty in moving the bowels had also increased. The inguinal glands were slightly enlarged and tender. The left testicle was absent and could not be felt, while the right was normal. The inguinal canal on the left side was open, though the internal ring was barely felt. Blood: 4,200,000 red cells, 6500 white. Since admission the fluid had increased in the abdomen and the patient had become weaker. The urine was clear on examination. The patient was discharged unimproved on May 7th as Dr. Halsted refused to operate.

CASE 3. *Monorchid; tumour in the right lower quadrant of the abdomen; operation.*—On April 25th, 1900, I saw with Dr. Henry Jackson and Dr. Cabot in Boston a robust healthy man, aged 45 years. He had had for years an undescended testis on the right side, which had once been just at the inner ring but subsequently had receded. For three or four months he had had irregular pains in the abdomen, thought to be due to gas, chiefly in the right iliac fossa. About six weeks previously Dr. Jackson noticed the presence of a lump in this locality and three weeks previously Dr. Cabot operated and found a large, solid tumour corresponding to the testis but passing deeply and surrounding the vessels in such a way as to make it inoperable. The patient was a healthy-looking man, though he had lost a good deal in weight. He did not look at all cachectic. The hypogastric region was a little prominent and there was a bulging just below and to the right of the navel. On palpation the right inferior quadrant of the abdomen was filled with a solid mass. Above it extended beyond the level of the navel and to the left about the middle line. It was fixed, slightly irregular on the surface, not painful. The prominence noticed was evidently the colon pushed up to the top of the mass. The

sicles. In other cases the spots enlarge and fuse, a considerable area of the cornea becoming denuded of epithelium, d this area continues to increase, showing a crenated rder. In other cases, again, the typical dendritic ulcer is rmed. Grey striæ extend in one or more directions from e minute ulcer, grow longer and throw out lateral branches, ally breaking down. I do not think that it is correct to nsider herpetic all ulcers of the cornea which have a perficial resemblance to the dendritic ulcer. In many ses they are traumatic and heal rapidly and the term dendritic," though it describes their appearance, is best ot applied to them, for it has come to have a specific eaning attached to it.

All these herpetic ulcers of the cornea are superficial and ever extend in depth unless they become infected. In most ases they involve Bowman's membrane and leave permanent aint nebulæ, though the scars may be so faint as to cause ittle or no impairment of vision in spite of the fact that hey are generally in the pupillary area. Characteristic of ll forms of herpetic keratitis is the fact that the sensitiveess of the cornea is depressed. If the cornea is touched ith a wisp of cotton wool there is much less response in he form of reflex closure of the lids on the affected side han on the sound side.

These types of keratitis associated with herpes febrilis are ess likely to be accompanied by complications than those ound in ophthalmic herpes. It is said that the cornea is more prone to be attacked in the latter group when the nasal erve is affected than when it escapes, possibly due to the fact that the nerve-supply of the uveal tract is derived through the lenticular ganglion from a branch of this nerve. The rule is certainly not an invariable one. Iritis not infrequently occurs in ophthalmic herpes corneæ, and there may even be severe iridocyclitis, with precipitates ("k. p.") upon the back of the cornea. Indeed, it is the rule for some slight diminution in the intra-ocular pressure to be present, pointing to interference with the processes of secretion of intra-ocular fluid by the ciliary body. I do not think too great importance should be attached to this statement, for the depression in the intra-ocular tension is seldom very marked.

Allied to these typical forms of herpetic keratitis are other cases which are not vesicular but which generally follow some febrile attack and pursue a course strikingly similar to true herpes. One such case I am able to show you. About a week after a febrile attack, probably influenza, this young woman's left eye became inflamed. On examination it was found that there was a group of yellowish-grey spots of about the size of a small pin's head, slightly above the centre of the cornea. They were separated from each other by greyish areas, which on magnification with the loupe showed fine striæ. Several of the spots showed staining with fluorescein at this period. The other case, which I have already referred to as occurring at University College Hospital, was almost identical both in history and appearance.

Of the forms of keratitis previously described by other writers these cases most resemble the condition known as superficial punctate keratitis (Fuchs). They differ from most of Fuchs's cases in that these are generally bilateral, and there is no loss of substance so that they do not stain with fluorescein. In the University College case I scraped the cornea and made a film and a culture on serum. No organisms could be found in the film and the culture was sterile, possibly owing to the previous use of cocaine. Both cases were treated by cauterisation with pure carbolic acid and both are very markedly improved. The irritation and redness of the eyeball have almost disappeared but the spots are quite plainly visible, though they no longer stain. They will probably persist for many weeks or even months and it is not unlikely that recurrent attacks of irritation and possibly fresh spots may occur.

There are other allied conditions which I cannot now discuss in detail. Some cases show an extreme tendency to desquamation of the corneal epithelium, so that when the patient wakes in the morning the greater part of the corneal epithelium is torn off and great pain is experienced. There are also cases of filamentary keratitis occurring in otherwise sound eyes, which are probably similar in nature and pathology.

The pathology of these herpetic and parerpetic conditions is of much interest. As long ago as 1862 herpes zoster was attributed to lesions of the posterior root ganglia (von Bärensprung[2]). Wyss[3] (1871), Sattler[4] (1875), and Kaposi found hæmorrhage and infiltration of the Gasserian ganglion in herpes ophthalmicus. The subject was attacked and exhaustively investigated by Campbell and Head[5] in 1900. 17 cases of herpes zoster were examined at all periods, from a few days to one and a half years after the eruption. In all the acutest cases hæmorrhages into the ganglion were found, usually small, but surrounded by a considerable amount of inflammatory exudation. The ganglion cells were destroyed to a varying extent and in the later cases parts of the ganglion were markedly sclerosed. Three cases of zoster within the territory of the trigeminal were investigated and in all changes were discovered in the Gasserian ganglion.

There is therefore good evidence to believe that ophthalmic herpes is dependent upon definite lesions in the Gasserian ganglion, which is morphologically a dorsal root ganglion. It is probable that the pathology of the various types of cases referred to in this lecture is fundamentally the same, different as are the clinical features in certain details. The frequency of a febrile onset is striking, and though herpes febrilis does not manifest the same accuracy of distribution according to nerve supply that is found in herpes zoster it is yet probable that the causal lesion should be referred to the peripheral sensory nerves and most likely to their ganglia rather than to their terminations. Herpes zoster is the outcome of an intense and concentrated attack upon certain dorsal root ganglia. Herpes febrilis and the parerpetic affections of the cornea (and possibly of other parts of the body) may reasonably be regarded as a less acute, more widely diffused attack of a similar nature. In herpes zoster parts only of an individual ganglion are likely to be destroyed. In the parerpetic forms we must predicate less destruction of tissue and abolition of function, but finer localisation, often combined with wider diffusion, of partial derangement of tissue and disorder rather than demolition of function.

Granting the accuracy of our views as to the site of the lesion there remains the extremely difficult task of explaining its manifestations. We are accustomed to regard sensory nerves as conveying only afferent impulses and it is difficult to imagine how even an inflammatory block in the course of the nerve can produce the pathological changes in structure at its distant terminations. The trophic control of the nerve fibres themselves by the dorsal root ganglion is a well-established fact. The trophic control of the tissues supplied by the fibres, early invoked to account for the phenomena of neuropathic keratitis, &c., is doubtful, if indeed it may not be said to have been disproved. Several cases of neuropathic keratitis following extirpation of the Gasserian ganglion for trigeminal neuralgia have come under my observation. If suitable precautions are taken during and after the operation this complication is infrequent, a fact which goes far to disprove the trophic theory. It is impossible to enter into a discussion of the experimental investigations upon the subject here. A careful examination of the facts derived from this source leads me to agree with the conclusions arrived at by Wilbrand and Sänger.[6] It is probable that neuropathic keratitis is due neither to abrogation of trophic influence nor to this cause assisted by loss of sensation and the invasion of pathogenic organisms. There is reason to believe that in all those cases in which the cornea becomes ulcerated after division of the fifth nerve the cut ends of the nerve are subjected to some abnormal irritation, either by blood clot, pus, or other agent. This view fits in well with the manifestations of herpes and parerpetic affections. If, then, there is undue irritation in the course of the nerve, as for example at the ganglion, how are we to explain the distant effects? They must be due either to the transmission of impulses along the nerve in the reverse direction to the normal afferent impulses or to the transmission of deleterious agents along the nerve.

There is some experimental evidence of the transmission of impulses along sensory nerves in the opposite direction to that of the normal impulses. In 1876 Stricker showed that vaso-dilatation of the hind limb of the dog occurred when the peripheral ends of the divided posterior roots of the sixth and seventh lumbar nerves were stimulated. In 1900 Bayliss,[7] contrary to his expectation, confirmed these results

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[2] Von Bärensprung: Annales de Charité, vol. xi.

[3] Wyss: Archiv für Heilkunde, vol. xii.

[4] Sattler: Berliner Klinische Wochenschrift, 1875.

[5] Campbell and Head: Brain, 1900.

[6] Wilbrand and Sänger: Die Neurologie des Auges, vol. ii., 1901.

[7] Bayliss: Journal of Physiology, vols. xxvi. and xxviii.

pain, sensations of heat above 45° C., and sensations of cold below 20° C. Loss of epicritic sensibility abolishes recognition of light touch, discrimination of compass points, appreciation of differences in size, and discrimination of intermediate degrees of temperature from 25° to 40° C. After division of a sensory nerve protopathic sensibility is restored in about six weeks if the ends of the nerve are placed in apposition. Cutaneous sores which may have occurred in the area affected from injury, &c., show little or no tendency to heal until protopathic sensibility is restored, when healing rapidly ensues. Epicritic sensibility requires much longer for restoration and the time varies with the position of the affected part. The areas of protopathic and epicritic sensibility are *not* identical. In any peripheral nerve the distribution of the protopathic fibres usually overlaps greatly the area supplied by the fibres of the adjacent nerves, whilst the distribution of the epicritic fibres in the larger peripheral nerves, such as the median and ulnar, overlaps only slightly. It is found for certain peripheral nerves or nerve groups—such as the median, ulnar, or pre-axial nerves of the arm—that each of these forms a unit of the epicritic system, whilst the protopathic unit must be sought in one or more posterior nerve roots, for the nearer the lesion is situated to the posterior roots the more extensive and definite is the loss of protopathic sensibility. Similarly the more nearly the injury divides one of the nerve groups the more definite and extensive is the epicritic loss.

Lesions of the spinal cord show that there is a complete redistribution of afferent impulses, so that peripheral impulses are transmuted into those of the secondary level of the afferent nervous system. This transmutation and recombination take place on the same side as that by which the impulses enter the cord. The secondary paths for sensory impulses then cross with greater or less rapidity, so that ultimately all except those subserving the sense of passive position and movement and tactile discrimination have passed to the opposite side within the limits of the spinal cord. Even these sensory impulses cross after reaching the nuclei of the posterior columns. At the same time, within the cord afferent impulses become separated into sensory and non-sensory. Of the latter many pass up in the secondary system of the direct cerebellar tract to reach the cerebellum.

It has been mentioned that skin lesions in an analgesic area show little or no tendency to heal until restoration of protopathic sensibility has taken place. There is further evidence that these peripheral lesions are in some manner under the control of the protopathic system. Head has previously shown that there is a close correspondence between the distribution of the tenderness caused by irritation through visceral disease of the segments within the cord and the areas marked out on the skin by the eruption of herpes zoster. He has also shown that herpes zoster is due in most cases to acute inflammation of a posterior root ganglion, whereas the tender areas in visceral disease are due to irritation of intramedullary segments. But, though all the cells and the fibres peculiar to them must be affected by the profound inflammation of the ganglion, one system only, so far as we know, can produce antidromic effects upon the skin, and these are the fibres shown by Bayliss to have their cells of origin in the ganglion of the posterior root. Head and Bayliss have now shown that these antidromic fibres are capable of excitation in the divided nerve of a cat five weeks after it has been reunited to the central nervous system. Hence, it may be considered proved that the power of producing changes in the skin of the periphery is a function of fibres which run in the protopathic system.

Without discussing the bearing of these researches upon the afferent impulses in the trigeminal nerve and their redistribution within the central nervous system, for which the material is indeed as yet insufficient,[11] it is clear that they have an important bearing on the pathology of neuroparalytic keratitis. Whether such so-called trophic lesions can be caused by the abolition of antidromic impulses alone —i.e., whether antidromic trophic impulses exist as a physiological phenomenon—is a question which may be set aside for the present, though the evidence in favour of such impulses is undoubtedly increased. What seems to be certain is that abnormal stimulation of the protopathic fibres in or near the ganglion produces antidromic impulses which have a deleterious effect upon the nutrition of the peripheral organs. The researches, in fact, bring forward strong evidence in support of a theory already suggested by Wilbrand and Sänger—viz., that neuroparalytic keratitis is due to irritation of the distal end of the cut or diseased trigeminal nerve. This theory explains better than any other all the diverse clinical facts which have accumulated. It explains the absence of keratitis in those cases in which it does not occur. Neuroparalytic keratitis may occur in association with retained corneal sensibility. Here the afferent tract is still open, but an irritative lesion has set up abnormal antidromic impulses in the protopathic system. There may be hyperæsthesia of the cornea with keratitis. Here not only is the afferent tract open but it is subject to abnormal stimulation either at the periphery or at the site of the lesion, and abnormal antidromic impulses are also set up. There may be anæsthesia dolorosa. This is due to irritation of the proximal end of the cut or diseased nerve, whilst antidromic impulses are set up in the distal section.

In conclusion I may perhaps be permitted to express the admiration which we must all feel for the brilliant results which have been obtained by Dr. Head and his fellow workers from their extremely laborious researches.

TORSION OF THE TESTIS.*

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THE following note is the outcome of the examination by us of nine cases of torsion of the testis that have come under our immediate notice. Three of these were under our care and the other six we are able to publish by the kindness of the members of the surgical staff of the London Hospital. Four of the specimens are now in the museum of the London Hospital Medical College.

Etiology.—Age.—Torsion of the spermatic cord may occur at any age, Taylor[1] reporting a case at birth, Howse[2] one at 48 years, and Lexer[3] a case in a man of 60 years. In our nine cases the youngest was four months old and the oldest 24 years, the average age being $12\frac{7}{15}$th years. In 23 cases taken without selection from the literature, 17 occurred in patients before the age of 20 years and eight before the age of ten years. The condition is therefore most common in young subjects.

Side.—In 40 cases taken from the literature the right testis was affected in 22 cases and the left in 18, giving a slight predominance to the right side; the predominance of undescended testis is also on the right side.

Position of the testis.—The earlier cases of torsion of the cord were chiefly noted in the partially descended testis, but later many cases have been reported in the fully descended organ. In our nine cases four occurred in the fully descended testis, four in the inguinal testis, and in the other the testis could, and did, easily ascend into the inguinal canal. In connexion with the last case it is interesting to note the ease with which the testes of the young can be made to ascend into the canal by contraction of the cremaster—a condition described by Corner[4] as "moveable testis" and which he believes to be due to the *presence of a* long mesorchium. In the 23 cases the testis was fully descended in nine cases and in 12 cases was in the inguinal canal. The position in the other two cases was not stated. Stiles[5] has described a case of torsion in an abdominal testis, but the organ was the seat of a malignant growth. There had been five attacks of pain, vomiting, and frequency of micturition before the testis was removed.

Cause.—The predisposing cause is a congenital abnormality of the attachment of the testis to the spermatic cord, with, perhaps, a voluminous condition of the tunica vaginalis and will be more fully referred to under the pathological anatomy. The exciting cause is not certainly known.

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[11] Much material for such a discussion has been collected by Dr. Morrison Davies from an exhaustive *investigation* upon 60 cases from which the Gasserian ganglion had been removed. The paper will shortly be published in *Brain*.

* The superior figures are references to the bibliography at the end of the article.

and there was complete absence of testicular sensation. Eve[12] watched a case that refused operation and at the end of a month found that the boy was well except that the body of the testis was wasted. In this case the testis was undescended.

But this marked degree of atrophy is not invariable. In Case 1 of our series on examination six months after the torsion the body of the testis was a little flabby and smaller than that of the opposite side, but testicular sensation was present and there seemed no fear of further atrophy unless the patient had another attack. In Case 7 six weeks after the symptoms the testis was harder than normal but not smaller. Cases of recurring torsion also may have several attacks without atrophy supervening, as mentioned above. Atrophy may, however, follow, even if the twist be quickly undone. Delafontaine[13] untwisted the cord a few hours after the onset of symptoms and atrophy followed. Nash's case was untwisted one hour after the onset of the pain and two years later his patient reported "the right testicle is considerably smaller than the other."

A rarer condition than atrophy is gangrene of the testis with sloughing of the organ which may follow operation or occur without anything being done. Johnson's case with emphysematous crackling has been referred to under Diagnosis. Davies-Colley[14] untwisted the cord in one case and stitched the testis into position but the organ sloughed. In Keen's case pyogenic organisms were found in *the fluid of the sac.* Scudder,[15] in reporting on 32 cases collected from the literature, gave the results of seven cases not operated upon: in three the testis sloughed, in two it atrophied, and the result was not ascertained in the remaining two. Subsequent cases show a much better result. We saw no case of sloughing in the four unoperated cases reported by us. Sloughing seems particularly likely to occur in those cases which are complicated by hernia and is perhaps due to infection of the tissue with the bacillus coli communis which enters it from the gut. That atrophy of the testis is more likely to occur than gangrene is borne out by the well-known method of sterilising animals—viz., twisting the spermatic cord.

Prognosis.—As far as we are aware no fatal case has yet been reported of torsion of the testis, either with or without operation.

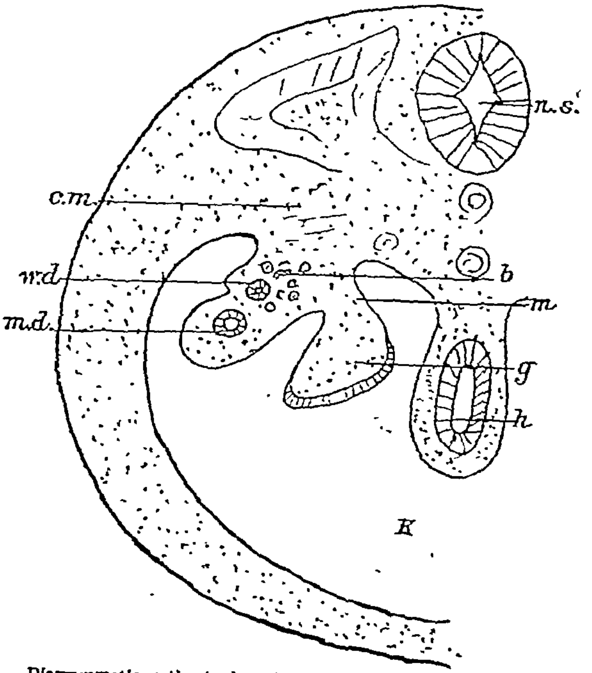
Pathological anatomy.—It is into the question of the pathological anatomy of this condition that we wish to enter somewhat fully, because in the cases reported we do not think it has always been accurately and sufficiently described and because the abundance of material placed at our disposal by the kindness of Dr. Arthur Keith and the *Museum Committee* of the London Hospital Medical College has enabled us to verify and to connect many of the facts reported by *other observers.* In the first place, we desire to make full acknowledgment of the help we have received from the very lucid and able articles by *Going and Keith* and Edington.

Considering the comparative rarity of this condition—although it is not so rare as was formerly supposed—the manner in which the normal testicle is attached, and the fact that the condition is so frequently met with in the partially descended testis, it is obvious that for torsion to occur the testicle must be attached to the spermatic cord in some abnormal way. That this is so has been pointed out by many observers, Eve, Corner, McAdam Eccles,[16] Keith, Edington, and it is into this abnormal attachment that we shall first inquire and verify each step by *reference to* specimens which we have personally investigated.

One of the first difficulties that presents itself is, as is pointed out by Keith and Edington, that various writers have used the term mesorchium in different senses, so that first it is necessary to define *what we* shall mean by this term. The accompanying diagram (Fig. 1) taken from Keith's "Embryology and Morphology," *p. 104, shows* that the genital gland (testis) and the Wolffian *duct* (vas and epididymis) has each its own fold of peritoneum, the fold attaching the testis being the mesorchium, *but that* the two folds join to form a common attachment to the posterior abdominal wall, the common urogenital mesentery. In the normal testis the epididymis becomes closely attached to the body of the testis, so that the mesorchium practically ceases to exist, whilst the common urogenital mesentery remains as the fold of the processus vaginalis, in which the spermatic artery runs to both the epididymis and the body. In some testes and more particularly in the partially descended testis, the mesorchium persists as a distinct fold of serous membrane passing between the epididymis and the body and contains the spermatic artery, the spermatic veins, spermatic nerves and the vas efferentia (Fig. 1). It will be seen in this same figure that the common urogenital mesentery is also longer than usual—a condition common in the partially descended testis and to be referred to later.

The usual attachment of the common mesentery is to the whole length of the epididymis and body except for a small part of the globus major (Fig. 7) and this attachment is seen in the still undescended testes of the fœtus as well as in the testes the descent of which is delayed in the inguinal canal. On dissecting the common mesentery of a case of partially descended testis with normal attachments in a boy aged 19 years, the following condition was found (Fig. 6). The spermatic artery running down in the fold of peritoneum, in which were also found the spermatic veins, reached the epididymis at the junction of its middle and upper thirds or even nearer the globus major. One large branch of this artery entered the epididymis to supply it, while the artery itself passed under the epididymis to supply the body of the testis, entering it well above the middle. At the lower part of the fold the gubernaculum testis was attached to the lower part of the body of the testis and to the globus minor and then passed downwards to be attached to the scrotum. It is said that this band may be absent in partially descended testes, and it is here necessary to refer briefly to the attachment of the fold containing the vessels (the plica vascularis), the gubernaculum testis, and the processus vaginalis. The *processus vaginalis forms* as a finger-like protrusion from the peritoneal cavity which grows downwards into the scrotum before the descent of *the testis.* It is quite free from the tissue of the scrotum, from which it can be readily removed in a full-time fœtus with scarcely any dissection. The testis is carried down *later behind* the protrusion of peritoneum by the growth of the gubernaculum testis which is attached to the lower pole of the testis and to the globus minor. The spermatic vessels grow down with the testicle and lie *in a fold* of peritoneum, the *plica* vascularis, which in the female forms the pelvo-ovarian ligament. A fold of peritoneum, the plica gubernatrix, continues this fold to the groin. These structures are seen in Fig. 2, also from Dr. Keith's book (p. 128). In some cases of partially descended *testis* the epididymis is exceedingly lengthened, the globus minor being carried down *far*

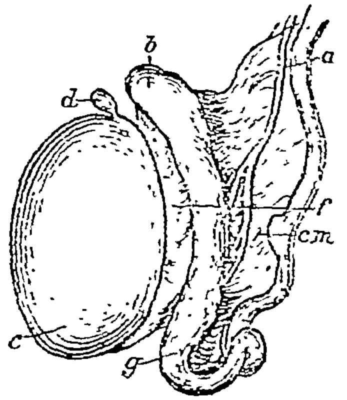
FIG. 1.



Diagrammatic section to show the position of the Wolffian and genital ridges on the dorsal wall of the abdomen (after Keith). *n.s.*, Nervous system. *c.m.*, Common mesentery. *w.d.*, Wolffian duct. *m.d.*, Müllerian duct. *b.*, Body. *m.*, Mesorchium. *g*, Genital gland. *h*, Gut. *k*, Body cavity.

opening but in Case 6 it was shut off from the serous cavity. In both cases it was voluminous. It contained two or three drachms of blood-stained fluid, the vessels in the wall were very congested, and patches of blood extravasation were present. The vessels of the spermatic cord above the twist were perhaps a little congested but it could be described as normal. On opening the sac the testis was seen to be of a dark maroon colour, both body and epididymis being deeply congested. The body of the testis was in front and the epididymis behind, so that the parts retained their normal relationship, but the organ as a whole was inverted so that the globus major and the stalked hydatid of Morgagni were below and opposite the attachment of the spermatic cord. This condition of inversion of the testis has been described by Curling [17] under the name of reversion. It must be distinguished from retroversion, sometimes called inversion, in which the epididymis is in front and the body behind and which occurs in about 1 in 20 testes otherwise normal.

FIG. 7.



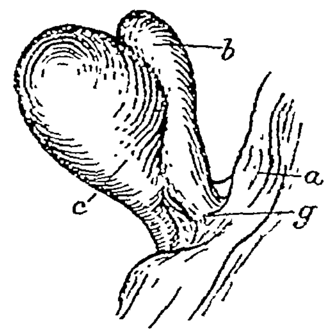
Undescended testis showing usual relations of the peritoneum to the testis and epididymis. *a*, Plica vascularis. *b*, Globus major. *c*, Body of testis. *d*, Hydatid of Morgagni. *f*, Mesorchium. *g*, Globus minor. c.m., Common mesentery.

Between the body of the testis and the epididymis there was in Case 6 a dark rounded mass of the size of a hazel nut which was the mesorchium with a large mass of effused blood between its two layers. This swollen mesorchium was not so apparent in Case 8, in which the twist was not so acute, and was almost absent in two of our cases in which the epididymis was closely attached to the body, whilst in a fourth case it was well marked. Other specimens seen by us have also shown this effusion, which depends upon whether the testis has an elongated mesorchium or not, the presence of which we think has little to do with the condition of torsion.

On examining the intra-tunical portion of the cord a sharp axial twist was seen to have taken place near the attachment of the spermatic cord to the testis, the twist occurring at the place marked by the arrow in Fig. 9. When the twist was unravelled it was seen to have involved the plica vascularis with the spermatic vessels and the junction of the globus minor with the vas, and in the twist itself these structures were thinned out. The twist is therefore of the intra-tunical portion of the spermatic cord and we do not think that in man there is any distinction between torsion of the testis and torsion of the cord as suggested by Mr. Going.

We have now to connect the anatomical conditions found in the non-twisted testis with those found in the organ the cord of which has undergone torsion. It is probable, and was certainly the case in all the specimens examined and seen by us, that the congenital abnormalities present in all cases of torsion of the cord, whether the testis has fully descended or not, are: (1) the abnormal attachment of the common mesentery and vessels to the lower pole of the body of the testis and the globus minor so that the testis is attached by a narrow stalk instead of by a broad band; (2) the elongation of the globus minor; and (3) the capacious condition of the tunica vaginalis. Keith has suggested that the inversion of the testis takes place at the moment of the twist, whilst Edington, whose case was inverted, in his description of Sir Hector Cameron's case, figures the testis as already inverted. We believe that the inversion occurs before the twist for the following reasons: 1. When we undid the twist after removal of the testes the organs were still inverted. 2. That in the cases that have been untwisted at operation nothing has been said about altering the position of the testis. 3. That in cases untwisted without operation a simple twist from left to right or right to left has been made and the symptoms have been relieved. A possible exception to this might be van de Poel's [18] case, in which the action for relief of the pain is described as "stroking the cord upwards and lifting the testis upwards and rotating." 4. Langlet [19] found after untwisting the testis at operation that it was still inverted. 5. From the conditions found in the above described partially descended testes.

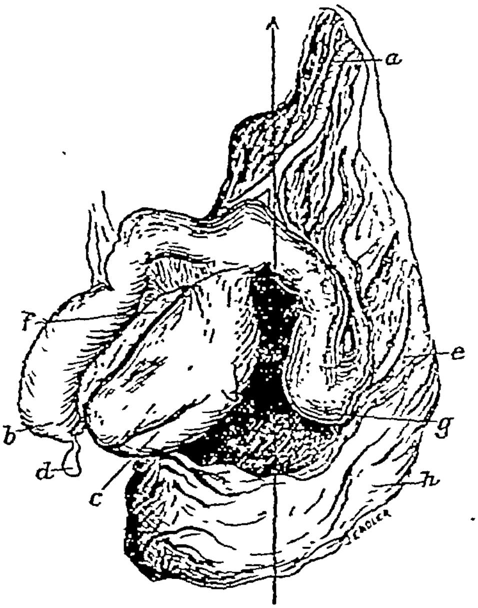
FIG. 8.



Retained testis in a full term anencephalic fœtus. *a*, Plica vascularis. *b*, Globus major. *c*, Body of testis. *g*, Globus minor.

A reference must here be made to the contention that torsion is due to the absence of the middle part of the gubernaculum testis [20] that fixes the testis to the bottom of the scrotum. That this band is absent we are inclined to doubt, certainly traces of it could be found in the two cases of torsion we fully dissected and it could also be easily demonstrated in all the cases of undescended testis we examined. That its attachment is abnormal we believe and to it we attribute the elongation of the globus minor. The amount of the twist varies considerably: in some cases only half a turn occurs, whilst in others four half turns have been

FIG. 9.



Testis and tunica vaginalis with abnormal attachment of the mesentery. Arrow shows where the twist occurs. *a*, Plica vascularis. *b*, Globus major. *c*, Body of testis. *d*, Hydatid of Morgagni. *e*, Gubernaculum. *f*, Mesorchium. *g*, Globus minor. *h*, Tunica vaginalis.

left testis so completely atrophied as to be difficult to make out. Not knowing the history, the case would be diagnosed as abdominal retention.

CASE 4.—The patient was aged seven years. Retained testis. Right side in inguinal canal. Three days acute pain. Vomiting. Bowels open. Painful, tender swelling right inguinal region. Scrotum red and œdematous. No testis in scrotum. Right retained testis removed. Healed by first intention.

CASE 5.—The patient was aged two years. Retained testis in inguinal canal. 48 hours pain and vomiting. Tender, painful swelling groin. Left retained testis removed. Healed by first intention.

CASE 6.—The patient was aged 34 years. "Ruptured" right side since eight years old; wore truss three to four years but hernia descended. On March 31st he slipped and "hernia" came down and gave him pain. Patient went to bed and part became swollen and painful. Vomited. Bowels open. On April 3rd taxis tried under anæsthetic. Bowels open; passed flatus readily. On admission on April 4th lump right inguinal region 4 inches by 1½ inches, tender, dull on percussion, impulse on coughing but not expansile. Right testis not in scrotum. Left testis normal. Treatment: Rest; lead lotion for eight days. Pain subsided; patient quite well. Swelling still present. Right orchidectomy. Healed by first intention.

CASE 7.—The patient was aged seven months. Pain and swelling right side of scrotum, one week. No cause. Left testis slight hydrocele. Right testis swollen and tender. Differentiation between body and epididymis impossible. Cord thickened. Translucency. Tunica vaginalis tapped; blood-stained fluid removed. Testis enlarged, body and epididymis indistinguishable. Two weeks later right testis hard, tender. Cord thickened. Scrotum red and œdematous. Two weeks later testis still hard. One month later slight hydrocele right side. Tapped; clear fluid. Testis still a little hard. No tenderness. Scrotum normal.

CASE 8.—The patient was aged ten years. On Dec. 7th, 1906, he was in bed asleep when sudden pain occurred on left side of scrotum. Found left testis ascended, could not get it down; next morning testis descended, pain ceased. Did not vomit. Bowels opened with medicine after pain ceased. On Dec. 10th testis again ascended; severe pain. Did not vomit. Admitted to hospital 12 hours later. The left testis was in habit of "ascending" and would stay up for three-quarters of an hour at a time and patient was in habit of pulling it down, but there was no pain. Right testis always descended; normal. Tender swelling, left inguinal region. No differentiation between body and epididymis. Patient was asleep when first seen by one of us. Testis removed. Healed by first intention.

CASE 9.—The patient was aged 16 years. Three weeks previously sudden attack of pain in left groin without cause. No vomiting. Testis undescended. Present condition: no pain or tenderness and no symptoms of any kind. Left side: swelling at upper part of left side of scrotum, soft below with hard nodule above. Some translucency lower part of the scrotum. No impulse on coughing. Right testis normal. Operation.—Twist half a turn of the intra-tunical portion of the spermatic cord. A very long epididymis and common mesentery. Parietal portion of tunica vaginalis removed. Testis placed in bottom of scrotum and fixed with stitches. This case was operated upon as the diagnosis was doubtful. It is too early at present to say anything about the result.

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ON HYPOPHARYNGOSCOPY.[1]

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IN this paper I propose to give a description of a new and excellent method of inspecting the laryngeal part of the pharynx, the hypopharynx as it is also called, and especially the lower portion of it, situated behind the lamina of the cricoid cartilage. The method originated in that clinic which during the last few years has produced most valuable work in rhino-laryngology—I mean Killian's in Freiburg, whose chief assistant, von Eicken, devised and perfected the method. He described and demonstrated it at the meeting of German scientists and medical men in Stuttgart in 1906 and has just published an account of it.[2] For my own part I had the privilege of seeing von Eicken use the method during a visit I made a couple of months ago to Killian's clinic.

As will be remembered, the pharynx is divided into three parts: a nasal part (epipharynx), an oral part (mesopharynx), and a laryngeal part (hypopharynx). The limit between the first two is formed by the soft palate when in a horizontal position and that between the two latter parts by a plane through the body and cornua majora of the hyoid bone.[3] The hypopharynx reaches downwards to a plane passing through the lower margin of the cricoid cartilage.[4]

Of these divisions the mesopharynx, or at least the greater part of it, has certainly been inspected by medical men as long as they have existed. The epipharynx has been open to inspection since 1858 (Czermak). From about the same period it has been possible to examine with the laryngeal mirror the *upper* laryngeal part of the pharynx, on the anterior wall of which the epiglottis, the arytenoid cartilages, the ary-epiglottic folds, the pyriform recessus, &c., are to be seen. As a rule, however, one cannot see further down than the upper border of the lamina of the cricoid cartilage. The *lower* laryngeal part of the pharynx, which lies behind the lamina of the cricoid cartilage (pars cricoidea pharyngis, as it might appropriately be called), has therefore as yet not been accessible to the eye with any certainty. Nevertheless, it is of great importance to be able to inspect this particular region easily and without danger to the patient. Let me only recall to mind the fact that this is the narrowest place in the upper part of the digestive tube and that therefore foreign bodies often impact themselves here and that the localisation in this region of benign or malignant new growths of tuberculous or syphilitic ulcerations and of pressure-diverticula (Zenker) may occasion considerable difficulties of diagnosis, which render it of enhanced value to be able to make use of the sense of sight in this region. No wonder, therefore, that a whole series of medical men has striven to devise methods of rendering this part accessible to the eye. This object may be attained in two fundamentally different ways. The observer may either introduce a dilating instrument into the particular region to be examined and then view the exposed parts directly or indirectly (by means of the laryngeal mirror), or manipulations causing the lamina of the cricoid cartilage to move away from the posterior wall of the hypopharynx may be so directed that an introduction of instruments in the laryngeal part of the pharynx is avoided during the inspection. As will be shown later the latter way is the right one.

To the first group appertain nearly all the methods hitherto recommended and employed. In order to review them they may be divided into two classes, one based on the use of tubular specula and another in which valvular specula with dilating branches moving either in the transverse or antero-posterior plane are employed. Under the name of œsophagoscope Bevan in 1868 and Waldenburg[5] in 1870 recommended a short tube to be introduced into the laryngeal part of the pharynx and the uppermost part of the œsophagus. The mucous membrane presenting itself through the tube might then be inspected indirectly by means of the laryngeal mirror. Waldenburg showed that a pressure diverticulum could be diagnosed in this way, as he was able to introduce his instrument alternately into the diverticulum filled with ingesta and into the entrance of the gullet. Morell Mackenzie, who diagnosed by means of his œsophagoscopic skeleton tube[6] the presence of a carcinomatous ulcer and in another case a benign polypus a little below the cricoid cartilage, and also removed by means of the same instrument pieces of tissue for microscopical examination and extracted foreign bodies from the œsophagus,[7] must undoubtedly also have been able to inspect the lower laryngeal part of the pharynx. In 1893 Löwe[8] published the description of an instrument for inspection of the œsophagus (as also of the

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[1] A paper read before the Copenhagen Medical Society on Feb. 12th, 1907. With demonstrations.

[2] Carl von Eicken: Ueber Hypopharyngoskopie, Archiv für Laryngologie und Rhinologie, Band xix., Heft 2, 1907, SS. 213-219.

[3] Hubert von Luschka: Der Schlundkopf des Menschen, Tübingen, 1868, SS. 15-16.

[4] Ibid., S. 6.

[5] L. Waldenburg: Oesophagoskopie, eine neue Untersuchungsmethode, Berliner Klinische Wochenschrift, 1870, SS. 578-580.

[6] Morell Mackenzie: A Manual of Diseases of the Throat and Nose, &c., vol. ii., London, 1884, pp. 15-16.

[7] Ibid., pp. 94, 105, and 193.

[8] Ludwig Löwe: Beiträge zur Oesophagoskopie, Deutsche Medizinische Wochenschrift, 1893, SS. 271-274.

patient, that during a retching movement the larynx suddenly retired somewhat from the vertebral column, so that he was able to look from four to five centimetres downwards into the gaping pyriform recesses and entrance of the gullet. This observation von Eicken could repeat in the same patient, and less completely in two others, when he irritated the posterior wall of the pharynx by means of the laryngeal mirror. In the great majority of patients, however, these attempts did not succeed, and therefore von Eicken began to search for a method which should enable him to inspect this region in all cases. At last he devised the following procedure, which he denominates hypopharyngoscopy. After careful cocainisation of the fauces, the root of the tongue, and the larynx, the patient is seated on a high chair, whilst the surgeon kneels down before him. This position is chosen because the patient must incline his head forward in order to release the muscles on the anterior side of the neck; these muscles thereby become unable to contract and so prevent the surgeon from pulling the larynx forward away from the vertebral column. But at the same time the inclined position of the head of the patient obliges the surgeon to kneel down as it becomes necessary for him to look from below upwards at the laryngeal mirror placed in the usual way against the soft palate. Next, a strongly built laryngeal probe of somewhat greater dimensions than the ordinary ones is introduced through the rima glottidis down into the subglottic space, and the larynx is pulled slowly in the direction forwards and upwards, the proximal straight part of the probe resting against the upper teeth, so that the probe acts as a lever. In the laryngeal mirror it may then be observed that[23] "the larynx is drawn one and a half to two centimetres away from the posterior wall of the pharynx, the two pyriform recesses join into a common cavity, and in the depth the entrance of the gullet is seen closed by the constrictor pharyngis inferior. Often a facetting of the lamina of the cricoid cartilage is visible through the mucous membrane, laterally to a median prominence. Occasionally it is also observed how that part of the mucous membrane that is loosely extended over the lamina of the cricoid cartilage and its muscles becomes drawn out to a fold stretching backwards, when the larynx is lifted away from the posterior wall of the pharynx; when the pull becomes stronger the fold disengages itself from the posterior wall of the pharynx and sinks back in a level with the rest of the mucous membrane on the lamina of the cricoid cartilage." To this description I may add that I have not rarely seen in my patients the gullet open up during vocalisation and thus have been given an opportunity of inspecting the uppermost part of that canal.

It is obvious that this method is of great importance for the diagnosis of affections of the lower laryngeal part of the pharynx and of the adjoining uppermost part of the gullet; it is not necessary to rest content after inspecting the alterations of the mucous membrane; it is also possible to use the probe and to excise tissue for examination or to remove foreign bodies under control of the eye. In these cases the patient himself or an assistant must pull the larynx forward, whilst the operator holds the laryngeal mirror with his left hand and manipulates the requisite instrument with the right. Von Elchen has thus verified the diagnosis of cancer of the region in question by an excision of diseased tissue in a case in which Killian's tube-spatula failed to give sufficient information. At the ear and throat clinic of the Kommune Hospital we have likewise had occasion to learn the value of the method in a case which at first presented considerable diagnostical difficulties. The patient was a nurse at the hospital, aged 61 years, who had formerly suffered from severe attacks of biliary colic and uterine hæmorrhage (fibromata uteri). About 20 years ago she had for some months the sensation of not being able to swallow solid food. This sensation then passed away and left the patient with no difficulty in deglutition, until suddenly one day about ten years ago she was nearly suffocated whilst swallowing a morsel of meat. A house surgeon tried to introduce a bougie into the gullet, but failed to do so, and whilst he hurried away to prepare for tracheotomy, the patient was seized with a violent attack of coughing and expelled the offending morsel of meat. During the ensuing ten years the patient has been able to swallow all sorts of food without any difficulty whatever, until her present disease began about six months ago. At this time she began to suffer from attacks of darting pain referred to the region of the hyoid bone and irradiating into the shoulders and the right ear; the pain occurred both independently of and during deglutition. Setting aside the odynphagia her deglutition was quite normal; she was, and is, able to swallow just as big morsels as usually and she has increased in weight from 66½ to 69 kilogrammes during the six months of her disease. Soft indiarubber œsophagus tubes stopped about 16 centimetres from the teeth, a Stille's bougie with its olive-shaped metal knob of 12 millimetres diameter passed after some delay in the region of the hyoid; ordinary conical gum-elastic bougies (up to 12 millimetres in diameter) were easily introduced into the stomach. On Roentgen ray examination an abnormal shadow was visible behind the thyroid cartilage, which awakened suspicion of a tumour in this region; abnormal shadows were also present at the hilus of the lungs, which may have been due to old tuberculosis or metastases in the glands of the hilus. Laryngoscopy, however, showed the upper laryngeal part of the pharynx, the larynx itself, and what might be seen of the trachea to be absolutely normal; stethoscopy was normal and no enlarged glands were palpable. By direct superior tracheoscopy with Killian's tube-spatula a certain bulging of the posterior wall of the trachea was detected just below the cricoid cartilage, but this bulging was not sufficiently pronounced to be declared undoubtedly abnormal; an attempt at œsophagoscopy provoked severe pain and was at once abandoned, as there was strong suspicion of pathological alterations in the lower laryngeal part of the pharynx; of what nature these might be all the preceding examinations had failed to show. Only hypopharyngoscopy by von Eicken's method proved conclusive, showing as it did at the first glance at the mirror an ulceration with greyish-white base situated at the lower border of the cricoid. Our ordinary laryngeal instruments for excision proved too short, but after we had had the universal larynx forceps of Fränkel-Pfau made longer we succeeded in removing from the posterior wall of the pharynx at the very entrance to the gullet a piece of tissue, which upon being submitted to the pathologist turned out to be a papillomatous surface-epithelium carcinoma.

The use of the hypopharyngoscope is *indicated* in cases of benign and malignant new growths, cicatricial and other strictures, or tuberculous, syphilitic, and other rarer ulcerations in the cricoid part of the pharynx. But not only in these cases may we expect to get help in diagnosis and treatment from the new method; in all probability it will also become more easy to get at pressure diverticula, partly because we shall be able to diagnose the diverticulum in its early stages and partly because in large diverticula we may hope to find the very often dislocated entrance to the gullet by means of the laryngeal mirror. For my own part, I think hypopharyngoscopy should always precede an œsophagoscopy when an inspection of the gullet is desired in an individual who has not formerly been examined with the œsophagoscopic tube. Even though in the great majority of cases nothing abnormal will be found in the hypopharynx, the adoption of the proposed measure will help to guard against disagreeable surprises (cf. the case of Czerny, quoted above).

As for inconveniences connected with the method, they might perhaps *a priori* be thought not insignificant. The idea of introducing a thick probe through the rima glottidis and pulling the larynx forwards by means of it may appear a little brutal to those unaccustomed to laryngology. Having now used the method in about 20 cases I am, however, able to state that none of the patients thought the method very disagreeable, let alone painful; they only perceive a pull in the throat, nothing more. What annoys them most is the cocainisation itself, and a thorough application of cocaine is a *sine quâ non*.

But is it not possible that the pressure exerted on the mucous membrane in the interior of the larynx may have some detrimental influence on the epithelium thereof? At first I rolled some absorbent cotton round the knob of the probe and applied thereto a few drops of a 20 per cent. solution of cocaine, as I have seen done in Freiburg, in order to diminish the sensation of the pressure exerted by the probe. Once or twice I have seen a couple of days later a whitish patch surrounded by a red halo on the anterior surface of the subglottic space, an alteration of the mucous membrane, which disappeared in one or two days; nor is it to be wondered at that an intimate contact of a mucous membrane with a 20 per cent. solution of cocaine should

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[23] Ibid., S. 218.

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suddenly retired somewhat from the vertebral column, expelled. A
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chair, whilst the surgeon kneels d improvement in the condition of
position is chosen because the patien h occurring on the evening of
forward in order to release the r
side of the neck; these muscle perature of 97·4° F. on admission
to contract and so prevent the p next day it rose to 101·8°
larynx forward away from th on the day following it rose from
at the same time the inclined apidly to 97°; it then remained sub-
patient obliges the surgeon to iation of one degree until Oct. 22nd,
necessary for him to look arriage it rose to 100°, fell to normal
laryngeal mirror placed in th and in the evening ran up to 102°.
palate. Next, a strongly b next fortnight assumed the irregularly
greater dimensions th er typical of infective endocarditis, running
through the rima glo t°, once only (on Oct. 30th) falling to 97°;
and the larynx is pu g of Nov. 7th it touched normal, rose to 102°
upwards, the pro ng, fell to 97·8° on the next morning, and then
against the upper t ween 97° and 99° until death occurred on
In the laryngeal . At the beginning there was a fair correspond-
larynx is draw een the pulse and the temperature readings, but
from the pos ame less marked towards the end.
recesses j n mortem condition.—The pericardial cavity contained
entrance of five ounces of slightly turbid fluid. A few petechiæ
pharynx present on the visceral pericardium and there was a
thick deposit of lymph over the auricles. The right side of
literally heart was considerably dilated and hypertrophied, whilst
observed left ventricle was also dilated. The muscle showed brown
loosely ophy. The greater portion of the pulmonary semilunar
its r ves was missing; only their irregular and thickened bases
wards mained. Attached to one of these was a large mass
of the yellow friable vegetation measuring one and a half inches
deep n length and one-third of an inch across, which extended
fibr along the pulmonary artery. This mass was firm at the
c centre but more friable outside. There were several small
vegetations in addition to this. No inflammatory change
was present in any other of the cardiac valves but very slight
atheromatous patches were detected in the mitral and aortic
valves. The tricuspid valves and the arteries were perfectly
normal. There were tough pleural adhesions over the apices of both lungs. At the left base was a large area of solid lung, firm, rigid, and moulded to the chest walls and diaphragm; it did not appear to be shrunken and on incision it was tough and gritty to touch, of a white colour, and sharply delimited from the adjacent air-containing lung. The pleura over this area was thickened but smooth. Several similar patches were found in both lobes of the left lung and the lower right lobe, but these were much smaller. From their arrangement they appeared to be old infarcts, which had undergone organisation and calcification; this view was confirmed by the microscope. No recent infarcts were seen. The pulmonary tissue was œdematous and congested on both sides. The liver was considerably enlarged and showed advanced nutmeg change. The spleen was very large and weighed 17 ounces; its capsule was smooth and tense; on section the organ was firm and fleshy, but it contained no infarcts. The kidneys showed cloudy swelling and congestion only. The right ovary contained a corpus luteum; the uterus was enlarged and its mucous membrane intact save where the placenta had been attached. No sign of sepsis was present. In the upper part of the cervix uteri was an old superficial scar in the mucous membrane, about half an inch in length, running vertically. It had the appearance of having been produced by an instrument. (At the miscarriage in hospital no instrument was used and the finger was not introduced into the cervix or even into the vagina.) On microscopical examination of the fibrinous vegetation found on the pulmonary valve large numbers of micrococci were visible; these took stains such as hæmatoxylin or neutral red quite readily, but did not retain the colour when stained by Gram's method. They did not show any particular arrangement, nor were they grouped as diplococci. No pure culture was obtained. No organisms were found in the spleen or in the lungs.

Remarks.—Pulmonary incompetence is the rarest of the cardiac valvular lesions. In Dr. Newton Pitt's article[1] in Vol. VI. of Allbutt's "System of Medicine," only 99 verified cases are mentioned. Of these only 57 were caused by infective endocarditis. The case which we now report is specially noteworthy, because in it the pulmonary valves were alone affected. The diagnosis of the lesion presented some difficulty, as one would expect when it is remembered that half the recorded cases have not been diagnosed before death. The symptoms, such as pallor, dizziness, &c., combined with a double murmur heard down the left side of the sternum, seemed at first to point to aortic regurgitation; but the site of maximum audibility, the dulness and thrill in the first left space, the fact that a distinct second sound was heard both at the aortic area and at the extreme left border of the heart, and the pulmonary infarcts which Dr. Lees inferred from the circumscribed patches of dulness which he detected on percussion, combined to make a symptom-complex indicating pulmonary endocarditis and incompetence. This diagnosis was therefore definitely made and was confirmed by the evidence of cardiac back-working as the disease took its course. The triple rhythm audible down the left side of the sternum may have been due to slight ventricular asynchronism, but in view of the fact discovered post mortem that the pulmonary valves were destroyed and that what little competence remained was entirely due to the large walnut-sized vegetation in the artery lumen, it seems possible that the triple rhythm may have been due to this mass becoming impacted in the artery as the blood flowed back. The localised patch of œdema situated over the lower part of the sternum, together with the increased cardiac dulness, led at first to some doubt as to whether the unusually rough sounds at the base were not pericardial in origin, and it must be remembered that the necropsy revealed the presence of some lymph over the auricles and some turbid fluid in the pericardium. The spleen was enlarged and was of a rather lighter colour than usual. The increase in size and the general appearance of the organ were hardly to be explained by the cardiac condition alone, but pointed to some kind of general infection. The casts which were found in the urine on the patient's admission to hospital were not explained by any lesion found in the kidneys at the necropsy, though cloudy swelling and very slight fatty degeneration were detected microscopically.

Infective endocarditis of the pulmonary valves is most frequently of gonorrhœal origin. In our case the fact of pregnancy in an unmarried girl, with the scar in the uterine cervix suggestive of an attempt at abortion, render a gonorrhœal infection possible, although the bacteriological report was not sufficiently positive for us to say anything definitely.

CASE 2. *An aortic aneurysm which ruptured into the pulmonary artery and caused regurgitation.*—The patient, a man, aged 39 years, was admitted into St. Mary's Hospital on Sept. 8th, 1905, complaining of pains in the left side of the chest, accompanied by shortness of breath, giddiness, palpitation, and attacks of faintness. The history was that he had had a pain in the cardiac region for two or three months. He had before that been working harder than usual at his work in order to gain promotion, and just previously to the onset of his illness he had taken part in a "tug-of-war," in which he thought he had strained himself; a cough had troubled him for a week before admission. No history of syphilis could be elicited. He had been a moderate drinker but had smoked about half an ounce of tobacco daily for many years; to this he attributed some attacks of dizziness which occasionally troubled him.

On admission the patient was found to be a tall, thin, and pale man, the upper part of whose body shook with each heart-beat, while the carotids pulsated visibly. He said that he felt the cardiac pulsations and that they caused him some distress. There was no œdema of the legs. The pulse was 100, irregular in force but regular in frequency, collapsing, with a full and short wave of dicrotic character. The artery wall was slightly thickened. The radial pulses were equal. The heart's impulse was diffuse in the fourth, fifth, and sixth intercostal spaces on the left side, both outside and within the nipple line. A very marked systolic thrill could be felt to the left of the sternum in the third and fourth spaces. The deep cardiac dulness extended two fingerbreadths outside the vertical nipple line in the sixth space. On auscultation in the third left space at the border of the sternum a long, very loud, and practically continuous murmur was heard; this waxed and waned in intensity, the maximum being during systole, the minimum in diastole. In the second left space the diastolic element was separated from the systolic and both were softer and shorter. The murmurs at their loudest were startling in their intensity. At the apex a long systolic murmur, a faint second sound, and a short diastolic murmur were heard. At the aortic area both murmurs could be heard but they were not so loud. Capillary pulsation was obtainable. A cough was present, but no lesion was detected in the lungs. The stomach was dilated outwards, whilst the liver reached just below the costal margin in the vertical nipple line. The left eye was sightless from old injury and deviated outwards. The urine was normal. There were no tracheal tugging and no visible pulsation or abnormal dulness at the cardiac base. The condition remained about the same for a few weeks, but after a month's rest in bed in the hospital the pain in the chest was even worse than when he came in. He was then unable to sleep on his right side and the pain was noticed to be increased when he took a deep breath. Signs of back pressure began to be more noticeable on Oct. 4th, when the liver reached three fingerbreadths below the costal margin in the nipple line. On Oct. 9th the left side of the heart was dilated out as far as three fingerbreadths beyond the nipple line in the sixth space, whilst the liver then reached down as low as the umbilicus. The dyspnœa was more obvious and the patient complained of pain over the hepatic region. At this time a second sound was noted as being heard at the aortic area, whilst slight dulness was found over and on either side of the sternum in the first space, probably due to dilated aorta. A little later he complained of waking up suddenly during the night in a fright owing to the disquieting sensations in his chest. His cough became worse and on the 14th some hæmoptysis occurred. An ice-bag applied to the præcordial region somewhat relieved the distress, but the general condition became worse, the dyspnœa increased, appetite was lost, and he became depressed in spirits. On one occasion a small venesection was performed and seemed to relieve him for a time, but as a rule it was necessary to give him morphine and atropine hypodermically in order to procure rest. On the 17th he complained of the sensation of a lump in his throat and vomited once or twice. The backworking of the heart became more extreme, the right heart became dilated, whilst œdema of the legs and tenderness and pain in the calves were prominent symptoms. Orthopnœa developed and a bed-table was found necessary on the 19th. Death occurred on the 22nd.

Post mortem the pericardial cavity was found to contain about three ounces of clear fluid. The right heart was considerably dilated and hypertrophied. The tricuspid orifice admitted three fingers. The posterior cusps of the pulmonary valves were adherent to the artery wall. Just above the cusps were two minute apertures with rounded and thickened margins, opening into an aortic aneurysm. A little above these was a similar but larger and evidently more recent opening about half an inch in diameter. The left ventricle was slightly dilated and somewhat hypertrophied. In the anterior wall of the aorta, just beyond the level of the valve cusps, was a saccular dilatation which measured one and a quarter by one and a half inches by three-quarters of an inch. The wall of the sac was thin and smooth on the inner surface and no deposit of blood clot was found. Old tough adhesions were found over the base of the right lung. There were marked pulmonary congestion and œdema, and portions taken from the bases sank in water. Slight bronchitis and emphysema were noticed. The liver was enlarged, congested, and firm in consistence; the spleen was enlarged and congested. The kidney capsules were somewhat adherent and the cortex was diminished and pale. The renal vessels showed atheromatous changes.

Remarks.—Amongst the 99 cases mentioned above, 14 instances are included in which the incompetence was due to an aortic aneurysm rupturing into the pulmonary artery and causing the valves to adhere to the walls of the artery. The lesion is said not to be very uncommon, and several specimens showing the same condition are to be seen in the various hospital museums. The diagnosis was made difficult by the accompanying aortic regurgitation. The presence of an aneurysm was regarded as certain, but the extraordinary nature of the sounds, both as to intensity and continuity, made those who saw the case confident that there was something in addition to aortic incompetence and this lesion. The suggestion was discussed as to whether the aneurysm had broken through into the pulmonary artery, but no certain conclusion was arrived at on this point. During life the pulmonary incompetence was not differentiated from the aortic regurgitation. The history of strain in this case is interesting and it may well be that the older perforations into the pulmonary artery were caused by the sudden exertion in the tug-of-war. He said that at the time in question he felt curious painful sensations, the like of which he had never experienced before; the pains were referred to the abdomen. Up to this time he had been in fairly good health, though family troubles had worried him. The rapid increase in the severity of the symptoms towards the end was no doubt partly due to the more recent perforation which was found. The part which excessive smoking plays in promoting arterial degeneration is not sufficiently understood for us to be able to say anything as to its influence in this case, but the fact remains that the patient was a heavy smoker.

For comparison with Case 2 we subjoin an abstract of the notes of another case of aortic aneurysm which ruptured into the pulmonary artery under the care of Dr. Lees in 1901.

The patient was admitted to hospital, under the care of Dr. Lees, on Feb. 8th, 1901, complaining of shortness of breath. History of present condition.—March, 1900: shortness of breath first noticed. June, 1900: left off work; legs and abdomen swelled. September, 1900: an inmate of Marylebone Infirmary, where the abdomen was tapped and the right chest explored. Personal history.—Previously healthy; a heavy drinker (up to a pint of rum daily); smoked half an ounce of tobacco weekly. Conditions on admission:—Cyanosed and orthopnœic; cold extremities; temperature 97·5° F. Heart: Pulsation over whole of præcordia and slight epigastric pulsation; a marked and nearly continuous thrill felt from the vertical nipple line to two fingerbreadths beyond the right margin of the sternum, and from the second to the fifth space on the left side, and the second to the fourth space on the right side; maximum in the third left space close to the sternum. Deep cardiac dulness: left, two fingerbreadths external to the vertical nipple line; right, three fingerbreadths external to the right margin of the sternum. On auscultation at the mitral area a first sound, a systolic murmur, and a second sound (murmur heard in the axilla). From one fingerbreadth internal to the vertical nipple line to the right is heard a continuous roaring murmur (something like the noise made by a train passing over a bridge); maximum in third space close to the sternum. A short second sound can be heard and that part of murmur which follows this differs in character from that which precedes it. A rough scratching sound of cardiac rhythm heard over the tricuspid area. Signs of fluid in the lower right chest. Liver enlarged downwards. Feb. 9th: Cyanosis disappeared; deep cardiac dulness one and a half fingerbreadths external to the right margin of the sternum (after leeches); systolic impulse in the third left space. The murmur starts with systole and is almost continuous till the next beat. 13th: Aortic and pulmonary second sounds noted as being distinctly heard in midst of roaring murmur. 18th: Abdomen tapped, 120 ounces withdrawn; right side of chest aspirated, 14 ounces of fluid withdrawn. 22nd: Troubled by cough; 108 ounces withdrawn by tapping abdomen; slight œdema of the lower part of the back; swelling of the left leg increased. 27th: Thrill more localised, conducted out towards the left, and more marked on expiration. March 2nd: Specific gravity of urine, 1004; faint trace of albumin. 6th: Some vomiting. 7th: Vomiting and diarrhœa. 8th: Murmur not so continuous as previously. 9th: Vomited. 13th: Coffee-ground vomit. 16th: Six ounces of fluid drawn from right chest 18th: Vomited; no cyanosis. 19th: Much better. 20th: Cyanosed; anorexia; venous pulsation marked in the neck. 21st: Died; the body temperature was subnormal for many days before death, usually about 96°. *Post-mortem notes.*—Fluid in both pleuræ. Four ounces of fluid in pericardium. Old and recent pericarditis. Heart 22 ounces, both ventricles dilated and hypertrophied. There was a small sacculated aneurysm of the aorta arising just above the right semilunar valve. This communicated by an oval opening half an inch in length with the pulmonary artery just by the posterior pulmonary valve, which was adherent to the wall of the vessel. There were recent atheromatous ulcers of the aorta. Several pints of ascitic fluid were present. Old peritonitis with adhesions over the spleen and liver. Liver, 44 ounces, small and firm, nutmeg appearance. Kidneys, four ounces each; cortex good. Spleen, four ounces, small and firm.

ACUTE AND CHRONIC APPENDICULAR PAIN; MEDICAL AND SURGICAL TREATMENT: A CRITICAL ESSAY.

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THERE is a marked tendency at the present time, in French medical circles, at least, to abandon surgical treatment in cases of acute appendicitis and chronic appendicular pain, and I propose in this paper briefly to review this question and will first consider—

Causes which have induced medical men to restrict surgical treatment.—From the very outset, when operations were performed for recurring attacks of pain in the region of the vermiform appendix, the *following* facts were noted: 1. In the course of operations the appendix was often found to be quite normal or only slightly involved. It seemed therefore difficult to consider it the cause of the trouble which had necessitated the operation. 2. Sometimes when the appendix, whether healthy or not, had been removed, chronic pain persisted just as before; even fresh attacks similar to that of relapsing appendicitis occurred. 3. In spite of the general tendency to resort to surgical treatment there were many cases where the symptoms seemed to point to a fatal termination, but in which, however, recovery was obtained without surgical interference. 4. These strictly medical cures assumed greater importance when the results of operating during the acute period of the affection, with all the risks it entailed, became better known. These facts at first puzzled both physicians and surgeons; but most of them were explained when careful studies of the morbid syndrome, now so frequently met with and which is called muco-membranous entero-colitis, were made, the intestinal symptoms of which may be thus tabulated.

(*a*) *In well-characterised muco-membranous entero-colitis.*—*Chronic constipation*, with or without occasional attacks of diarrhœa; *diarrhœa*, which may become chronic, and is observed in the place of chronic constipation more than is generally supposed; *spasmodic contractions* of the large bowel which alternate or co-exist with dilatation of one or more of its portions; *persistent pain* which becomes intense during the acute periods of the affection; *passage of mucus and casts* with occasional intestinal *hæmorrhages*, and in some cases abundant evacuations of *intestinal gravel.*

Now there are two important signs which must always be kept in mind, for they are practically never absent. Firstly, when paroxysms of muco-membranous entero-colitis are localised or predominate in the right iliac fossa at, and around, McBurney's point, they present symptoms which may resemble exactly those of an acute attack of appendicitis, and when there are no acute paroxysms of the disease there may be persistent pain which simulates that of chronic appendicitis. As in true appendicitis, the pain, whether acute or chronic, is of a shooting, stabbing, or colicky character, or is replaced by a more or less marked sensitiveness in the right iliac region. This pain is increased by movement. Secondly, experience teaches that when in the course of supposed acute appendicitis or of chronic appendicular pain mucous casts are passed in the stools the physician is bound to feel entirely reassured as to the nature of the trouble and is enabled to give a good prognosis. I have verified this many times since I began to practise at Chatel-Guyon in 1899. The same holds good when a history is obtained of the passing of mucous casts, even a very long time previous to the appendicular pain.

(*b*) *In latent forms of muco-membranous entero-colitis, in which false membranes are absent.*—There are latent forms of muco-membranous entero-colitis in which mucous casts which have been considered as the main intestinal symptom of the affection are not found. Some authors even consider one of these latent varieties as a special disease, which they call *spasmodic constipation.* It is mainly characterised by intestinal contractions and chronic constipation. Spasmodic constipation I consider to be a latent form of muco-membranous entero-colitis. I think that when the system has been attacked by the morbid process which gives rise to the syndrome muco-membranous entero-colitis it may react in different ways. Sometimes all the usual symptoms are present; sometimes one or more of them are absent. In fact, observation often shows that even after years of alleged spasmodic constipation mucous casts do appear and lead to the diagnosis of the real nature of the disease. Latent forms of the affection are more frequent than is generally thought and may be associated with acute paroxysms or chronic pain in the right iliac region. It is the careful study of the character of the pain and intestinal spasm in the acute or chronic condition in such latent forms that will make the physician feel reassured.

When an acute paroxysm comes one fact stands out above all others, and that is, that the pain does not possess the peritoneal characteristics. It does not spread to the whole abdomen as it does in peritonitis, in which the tenderness of the whole abdomen is so acute that the patient cannot even bear the weight of the bed-clothes; on the contrary, the pain, although it may present its maximum intensity at McBurney's point, follows also the ascending part of the colon and diminishes gradually along its transverse segment. There may be a certain degree of contraction of the abdomen, especially in patients of a nervous temperament, but it is never so marked as to prevent palpation, which, if lightly performed, will show that there are contraction of the cæcum and pain both over the cæcum and the ascending colon; also, that one or more portions of the large intestine are the seat of increased sensibility or of spasm. I never neglect this methodical and systematic examination of the cæcum and colon and I have come to the conclusion that the information supplied by palpation thus applied is of as great importance as the presence of the mucous casts themselves. When there is no acute paroxysm but simply chronic pain in the region of McBurney's point palpation becomes much easier and brings out very plainly the painful and spasmodic condition of the large bowel.

Thanks to our actual knowledge of muco-membranous entero-colitis we see now why medical instead of surgical treatment is quite rightly applied to the numerous patients suffering from appendicular pain in the course of this affection. We understand why so many cases of acute or chronic appendicular pain have been ameliorated or cured without operation, and this in spite of the late general belief. We know that it is especially in this class of patients that surgeons have found the appendix to be either normal or only very slightly affected, and that acute or chronic pain in the appendicular region persisted after the removal of the appendix.

I must lay stress upon another point which I consider is of great practical importance. The appendices which have been removed after acute paroxysms or chronic pain in the course of muco-membranous entero-colitis and which have been found affected present, whatever their other lesions may be, a special degree of resistance. Their walls are thickened and they may be surrounded by protective peritoneal adhesions. The slow and continuous irritation of the morbid process in muco-membranous entero-colitis does not destroy altogether the feeble vitality of the appendix. It does not prevent it from forming cicatricial tissue which, together with the peritoneal adhesions, forms a substantial barrier to fresh and more severe causes of infection. In these circumstances, should some other cause of appendicitis supervene, although it may give rise to acute or chronic attacks, the patient stands a much better chance of avoiding generalisation of the infection to the whole peritoneum.

There is not the slightest doubt that there are cases in which complete recovery has been obtained by medical means alone in patients suffering from either acute appendicitis or chronic appendicular pain and who are quite free from muco-membranous entero-colitis. Every year I have the opportunity of attending some of these patients who come to Chatel-Guyon to improve the state of their digestive organs and thus reduce their liability to further attacks. (See below, Case 1.) I can quite understand, therefore, that when the far from satisfactory results obtained by operation during the acute period of appendicitis became known physicians preferred to resort to medical treatment alone. In the majority of cases the patient is brought safely through the dangerous stage of the affection and the acute period with all its dangers once passed the patient nearly always considers that since medical means succeeded so well one cannot do better than continue with them. On the other hand, the physician may feel that his responsibility will be very great indeed if the patient having safely got through this dangerous appendicular crisis succumbs to an operation even made "*à froid.*" And so both patient and medical man come to the conclusion to have recourse to a compromise, which from a human point of view may be easily understood. The result is that an operation is put off until the patient's life is greatly endangered by a new attack or until appendicular pain has become so chronic as to constitute a real infirmity. In short, cases of acute appendicitis, having no connexion with muco-membranous entero-colitis, are operated upon less frequently because cures have been obtained (sometimes quite unexpectedly) by medical treatment and because the risk of a fatal termination, even after the operation "*à froid*," cannot be entirely suppressed.

To sum up the first part of these facts, we see that there have been good reasons for the restriction of the surgical treatment in cases of appendicular pain, and the general tendency to resort more frequently to medical methods seems to me to be quite justified. On the other hand, however legitimate this opinion may be, one must not neglect the advantages of surgical treatment in special cases; these I shall proceed to consider.

Should the modern tendency to resort to medical treatment alone in cases of acute or chronic appendicular pain spread too widely it might lead to the neglect of useful or imperative surgical interference.

(*a*) *Appendicular pain occurring in patients who do not present any symptom of muco-membranous entero-colitis.*—I readily admit that in many patients of this class the acute period of appendicitis is ameliorated by using medical means alone; even full recovery may be observed in some instances. (See Case 1.) Physicians, however, though rightly remembering the reported cases in acute or chronic cases of appendicitis, should never forget the many unknown clinical points they have to face when called upon to express an opinion—i.e., anatomical condition of the appendix, its pathological state, the real cause and the degree of virulence of the affection, and the resistance of which the appendix is capable. Experience shows also that in acute or chronic appendicitis a fatal termination sometimes very rapidly occurs. These very serious facts should always be borne in mind when the comparatively small risks of an operation "*à froid*" are being discussed; they ought to weigh heavily in the balance when the time has come to make a decision. The question is so much more difficult to solve as there is no certain symptom to guide us as to the future of the affection and thus every acute case has to be carefully studied on its own merits. Personally, I must say, that in spite of the favourable cases I come across every year the possibility of an unexpected acute attack coming on quite suddenly and ending fatally has always induced me to suggest an operation "*à froid*" when the condition of the patient after a few months' medical treatment has undergone no marked improvement.

(*b*) *In appendicular pain occurring in patients suffering from muco-membranous entero-colitis.*—I do not think it is possible to get rid of muco-membranous entero-colitis by simply removing the appendix, even when the latter is diseased, and I am confirmed in this opinion by the study of a large number of cases. Medical treatment, therefore, seems to me to be the most important in such cases. But, on the other hand, I do not believe that surgical treatment should be entirely abandoned, as is the general tendency in cases of muco-membranous entero-colitis. There are at least two conditions in which surgical interference may be indicated.

1. In conjunction with the cæcum and the ascending colon, the appendix, even without any change in its structure, plays a part in paroxysmal or chronic pain limited to the right iliac fossa in cases of muco-membranous entero-colitis. Now there are circumstances in which, either because of the general state of the nervous system or for some other reason, the appendix, influenced more especially by the existence of muco-membranous entero-colitis, gives rise to intense secondary reflexes, either general or local. These reflexes may render the patient a confirmed invalid. (See Case 2.) This condition specially presents the very serious inconvenience of neutralising all the purely medical means used against muco-membranous entero-colitis. In cases such as this, when the reflexes to which I have just alluded persist for more than 18 months or two years without improvement, I consider that an operation for removal of the appendix must be seriously thought of, even if the appendix were to be found normal. I must say, however, that such cases are not frequent. In Case 2, which is related farther on, operation did not cure the muco-membranous entero-colitis but it stopped the secondary reflexes which, taking their origin in the appendix, practically crippled the patient. Subsequently he was able to get the full benefit from medical treatment, which alone is able to cope with the affection itself.

2. There are chronic cases of appendicular pain in which the condition of the appendix already influenced by muco-membranous entero-colitis may still be complicated by added or supervening causes, such as an exaggerated length of the appendix, appendicular calculi, or the presence of pathogenic micro-organisms. Of course, thorough diagnosis is very difficult in these circumstances, and although they are not frequent still they do exist and must be taken into consideration, and when once their existence has been suspected the removal of the appendix should be advised. But should surgical interference be delayed for any reason in such complicated cases I firmly believe that the presence of muco-membranous entero-colitis is still sufficient to reassure physicians as to the immediate prognosis of acute paroxysms, and this thanks to the already mentioned special resistance of the appendix in this chronic affection.

Thus, in spite of the marked improvement in the study of the indications for medical treatment in acute or chronic appendicular pain, I think it would be a great mistake to approve without reserve the general tendency if it were to lead us systematically to ignore the help given by surgery.

I append a clinical account of three cases in illustration of this paper.

CASE 1. *A typical case of chronic appendicitis, without muco-membranous entero-colitis, cured by medical treatment alone.*—The patient, a man, aged 36 years, had led a very active life. His first season at Chatel-Guyon was in 1903. Until 1890—i.e., until the age of 23 years—he had always enjoyed the best of health. His digestive organs were in perfect order, the functions of the stomach were quite normal, the large intestine was normal in muscular tone and had never been painful, it acted regularly twice a day, and the stools were normal. In 1890, one morning, whilst the patient was still in bed and just going to get up, he felt all at once a most intense and agonising pain like the stab of a knife at McBurney's point. Constipation set in immediately and was complete during three days. The whole abdomen rapidly became very painful and the patient could not even bear the weight of the bedclothes. Vomiting came on but was not frequently repeated. The temperature rose but never became very high. The attack lasted altogether 15 days. The patient was then able to get up and gradually resumed his ordinary occupations. Since 1890 the patient had to watch carefully the functions of his stomach, which were very easily upset. There were a semi-chronic state of constipation and a marked constant pain at McBurney's point; the pain was increased by over-eating, by the act of walking, and especially by railway travelling. In 1899 he had a second very severe attack of appendicitis. Surgical intervention was seriously thought of but was put off for the moment. He recovered from this fresh attack but returned to his previous bad condition. In 1903 he had his first season at Chatel-Guyon. On examination of the large intestine no spasmodic condition was found and none of its segments were painful. McBurney's point alone was very tender, as it had always been since 1890. There were neither mucus, nor mucous casts, nor gravel in the stools, but the fæces were very hard and nodular. The stomach was dilated, but both the liver and the kidneys were normal. Appendicular pain was slightly increased during the first days of the cure, but it did not last long and there was soon a marked improvement of the digestive functions. A short time after his departure from Chatel-Guyon appendicular pain, which had notably diminished during the latter period of the cure, disappeared entirely and the patient was able to get through a good deal of work without the slightest inconvenience. He never resorted to the help of any sort of abdominal belt or support and he was only very careful in his regimen. The large bowel, once again, as previously to the year 1890, began to act regularly twice a day. In 1904, his second season at Chatel-Guyon, I found nothing abnormal on examining him. The stomach was neither dilated nor painful; the bowel was normal on palpation and there was no pain at McBurney's point. The patient went through his second cure very carefully. He never came back to Chatel-Guyon and I am informed that he has since been enjoying very good health.

CASE 2. *A case of muco-membranous entero-colitis, in the course of which painful secondary reflexes arising from the appendix quite disabled the patient and necessitated surgical intervention.*—The patient, a man, aged 31 years, spent his first season at Chatel-Guyon in 1904. He had always been of a very nervous and impressionable temperament, but up to the age of 26 years he had never suffered from any disease. At the age of 26 years he contracted a rather severe attack of bronchitis which lasted a month, but he got quite well again. In short, until the age of 27 years the patient had a very good appetite, his bowels acted regularly, his stools were normal, and his sleep was perfect. At the age of 27 years constipation set in for the first time—two or three days passed sometimes without any stools; the fæces became hard and covered with mucus. At the same time digestion was impaired, with a sense of fulness in the epigastric region after meals. He had also, now and then, colicky pain in the region of the transverse colon, with diarrhœa and mucous casts. For the next three years he had no treatment. In March, 1903 (at the age of 30 years), he consulted his family physician, since the state of his health had become worse. After having been constipated for several days he passed a motion consisting of very hard matter and soon after a very acute pain in the right iliac fossa came on, lasting 48 hours. The temperature rose to between 38° and 38·5° C.; constipation was complete and there was vomiting. During the paroxysm pain was localised to the right iliac fossa. The crisis disappeared gradually and it was only after complete rest in bed for a period of eight days that the patient felt really better. Since this attack mucous casts were passed in greater quantity in the stools. In October, 1903, a second painful crisis came on, which lasted two or three days, and, as in the former, was limited to the right iliac fossa. In March, 1904, a third attack of a violent character, also localised to the right iliac fossa, took place, after which the patient went to Paris for a consultation. The removal of the appendix was strongly opposed. He was told to follow a strict regimen and to have the skin of the affected region cauterised every week for a month with the thermo-cautery. From March to June, 1904, he had a series of painful attacks which predominated in the right iliac fossa, but extended also to the transverse colon. In June, 1904, he spent his first season at Chatel-Guyon, where I then saw the patient for the first time. I found that he was exceedingly excitable and impressionable; the stomach was little affected, but the large intestine was contracted and tender in the region of the ascending colon and sigmoid flexure. Pain existed over the flexures of the colon and more particularly at McBurney's point. The right kidney was slightly displaced and gave rise to rather sharp shooting pains, extending from the right lumbar region to the right testicle. The left lobe of the liver was tender on pressure but the rest of the organ seemed normal and in its right position. The patient never had any hepatic colic. During the time of his "cure" he had a whole series of exceedingly painful attacks localised around McBurney's point, one paroxysm coming on before the other was finished. Pain never presented the peritoneal character. On arrival at Chatel-Guyon (we must remember this important fact) pain in the peri-appendicular region was so intense as to render the patient practically helpless. He could hardly walk a few steps, and the slightest movement was enough to bring on a paroxysm. There were several acute attacks of pain in the right iliac fossa; constipation was still more obstinate and mucous casts were passed both during paroxysms and in the intervals. As there had been no improvement in the state of the patient, who had been reduced to a chronic invalid by the persistent nature of the appendicular pain, he underwent operation and the appendix was removed on May 17th, 1905. The latter was found to be small, hard, quite free from adhesions, and containing nothing in its cavity. We see, therefore, that the patient's life was in no way endangered by the state of the appendix.) He was able to leave his bed on the eighteenth day after the operation. The acute persistent character of the appendicular pain disappeared and by attending very carefully to his diet, to hygiene, and by avoiding the least exertion he was able to enjoy quiet short walks and partially to resume his ordinary occupations. His health was thus improved and the spasmodic condition of the bowel, which had been markedly relieved by the removal of the source of reflex irritation, starting from the appendix, had not disappeared entirely but caused very little inconvenience. Constipation had also been greatly ameliorated but the patient still continued to pass as before both mucus and mucous casts. In May, 1906, he had an acute attack of muco-membranous entero-colitis, characterised by constipation, colicky pain more marked in the right iliac fossa than along the transverse colon, and casts. This acute attack was less intense than before the removal of the appendix. In June, 1906, he came again to Chatel-Guyon. On examination I found there was a general spasmodic contraction of the large bowel, but the latter was only slightly tender, even in the right iliac fossa. Constipation was chronic and mucous casts were found in the stools. He could walk standing quite erect instead of nearly bent double as before his operation. After this second visit, and in spite of an acute attack of diarrhœa coming on after severe indigestion, the general health of the patient improved still more. His state of nervous irritability was especially greatly diminished. From September, 1906, to January, 1907, the bowels acted regularly, with quite normal stools and without the slightest trace of casts. In January, 1907, the patient contracted influenza, under the influence of which casts were again passed. He then went through a cure at his home with Chatel-Guyon water and he wrote to me in February saying that although his cure was not complete, yet the bowel had already become normal in its function. Since his last season at Chatel-Guyon he has been feeling quite a new man; he was able to get through a lot of work, do a good deal of driving, and take outdoor exercise in the shape of shooting. He has gained considerably in weight.

I have given the full details of this case, for it constitutes quite a *résumé* of the facts I have described in this article. It shows also that in spite of the modern tendency and belief there are still cases of muco-membranous entero-colitis in which an operation is necessary.

CASE 3. *A case of chronic muco-membranous entero-colitis in the course of which acute appendicular pain, due to a supervening cause—a large appendicular calculus—necessitated operation; recovery.*—The patient, a man, aged 44 years, had lived a long time in Palestine, where he holds a very important and responsible post. In that country 15 years ago he became suddenly very constipated after a violent emotion. Constipation was soon complicated by intestinal pain of medium intensity and the passage of mucus and casts in his stools. In short, the patient began to suffer from muco-membranous entero-colitis, which has lasted ever since. The special feature of this entero-colitis was that in spite of the contracted state of the bowel, the persistent constipation, and the chronic passage of casts, the patient had been remarkably free from very painful paroxysms. Intestinal pain was always bearable. An important fact occurred towards the end of 1905 whilst the patient was still in Palestine. The muco-membranous entero-colitis became suddenly worse and painful paroxysms of the most violent character came on in the right iliac fossa with intense pain. Another attack took place six months later when the patient was in Paris. Both the first and second acute appendicular paroxysms disappeared after medical treatment. However, the pain in the right iliac fossa, which had increased since the first crisis, caused the patient a good deal of anxiety. The idea of returning to Palestine with his appendix in a diseased state and liable to set up complications at any moment was anything but reassuring and his physician suggested the expediency of an operation. It was finally decided, however, that the patient should first try the Chatel-Guyon treatment, where I saw him in 1906, a short time after the second attack. On examination I found all the organs of digestion out of order; the tongue was thickly coated and the stomach was slightly dilated, which in conjunction with the large intestine was the seat of frequent burning sensations. Digestion was slow and difficult. On palpation I noted the cæcum to be very large, in a state of contraction, and very painful on pressure. The sigmoid flexure was also tender and in a state of spasmodic contraction. I was astonished to find that the pain presented its maximum of intensity not at McBurney's point but a little higher up. The patient, however, stated to me very clearly that during the acute paroxysms he suffered terribly in the appendicular and peri-appendicular regions. Besides, the pain which existed in a chronic state was very notably relieved by his wearing a light belt very tightly drawn. Nothing particular happened during his course of treatment at Chatel-Guyon. After leaving Chatel-Guyon he went to Switzerland for a rest and followed there a very strict regimen. He was then feeling much better, but a short time later he was suddenly taken with a third acute attack as intense and as serious as the two former ones. Operation was then decided upon and the appendix was removed "*à froid*." The appendix was found quite behind the cæcum, to which it was firmly adherent. It was imbedded in strong adhesions and removed with the greatest difficulty. When opened it was found to contain an extremely hard stercoral calculus, measuring four centimetres in length and one centimetre in thickness. At the present time the patient is free from pain in his right iliac fossa but still passes a few casts. He has gone back to Palestine.

We have here another example of the condition of an appendix already influenced by the chronic and subdued irritative process of a prolonged muco-membranous entero-colitis which is suddenly complicated by a supervening and unexpected cause, a large stercoral calculus. One can easily understand that in such a case the diagnosis could only be made after operation. The existence of the firm adhesions in this case serves to show how the appendix reacted and protected itself against the irritation due to the calculus.

Chatel-Guyon, France.

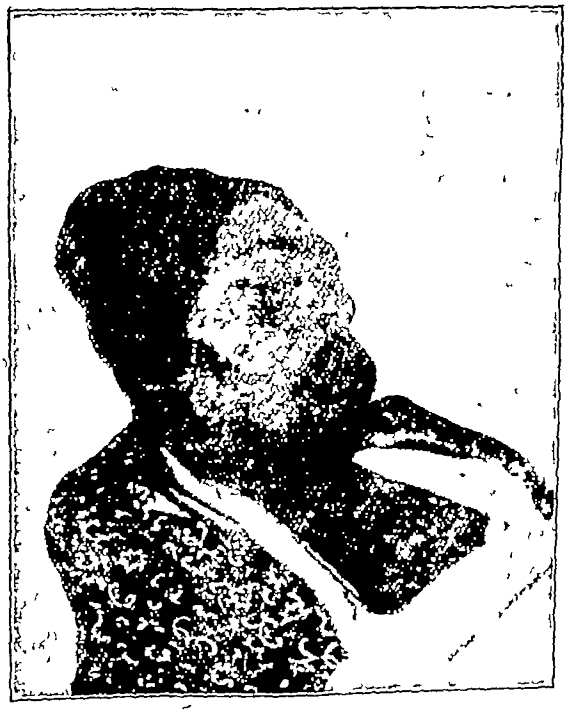
Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

AN ACUTE INFECTIOUS CONDITION (? GLANDERS).

BY HAROLD T. MARRABLÉ, M.B., B.CH. DUB.,
SURGEON TO THE CHURCH MISSIONARY HOSPITAL, ISFAHAN, PERSIA.

THE patient, aged 29 years, a carriage driver between Isfahan and Shiraz, was admitted to hospital on Feb. 16th of this year. He gave the following history. A fortnight previously while on the road he got a severe attack of shivering and fever, which was followed four days later by pain and swelling of both feet. On the 12th, that is, four days before admission to hospital, he became much worse. On admission to hospital the following features presented themselves. The patient, obviously very ill, was unable to walk. Both his feet and ankles were considerably swollen and very painful; his right hand and lower part of forearm were similarly affected. He had a bad cough and some bronchitis; the lungs were clear. He complained of frontal headache and moaned incessantly. The temperature was 102·6° F. and the pulse was 112. Thinking the case was one of acute rheumatic fever I treated him with salicin and ordered the painful joints to be wrapped up with cotton-wool. During the night his temperature came down to 101·2°, his pulse, however, was faster (124) and his respirations, which were 30 per minute on admission, were now 40. During the day (the 17th) numbers of small pustules, of the size of a pin's head, came out over his neck and chest, and his face began to swell towards evening. He was restless and tried to get out of bed during the night and his temperature, 103 6° in the early part of the night, again fell towards morning to 102°. His pulse was now 140 and his breathing was rather more rapid. The first symptom that gave any hint as to the true nature of the malady was an amber-coloured exudate from the nose, at first slight and later copious; this was on the morning of the 18th. Quinine, strychnine, and iron in large doses were administered at frequent intervals during the day and the patient was isolated. On the following morning (the 19th) the patient was much worse. The accompanying reproduction of a photograph taken two hours before death gives but a faint idea of the spectacle which he presented. Large blebs came out during the day on his face and neck and, breaking down, exuded the same amber-coloured fluid that flowed from his nose. His face was extremely œdematous, while the swelling of his feet had somewhat subsided. Several patches of dulness appeared over his lungs and just before death, which occurred at 8 o'clock on the evening of the 19th, his temperature was 104·8°, his pulse was 160, and his respirations were 56.



I could obtain no history of an outbreak of glanders among the post-horses, but the disease does not infrequently occur, and little or no precautions are taken in Persia against its spread.

Isfahan, Persia.

A CASE OF ABERRANT FUNCTIONAL (?) CHRONIC INTESTINAL OBSTRUCTION.

BY G. S. THOMPSON, M.R.C.S. ENG., L.R.C.P. LOND.,
SENIOR RESIDENT MEDICAL OFFICER, ROYAL ALBERT HOSPITAL, DEVONPORT.

THE following is an account of a condition which is so uncommon as to seem worthy of being added to already published cases of the same or an allied nature.

The patient was a child, five years of age, admitted into the Royal Albert Hospital on Oct. 20th, 1906, under the care of Mr. A. G. Rider, for chronic constipation of a most obstinate nature which dated from birth. It was not by any means an unusual event for the patient to go two or three weeks without anything being passed from the bowel; indeed, this was only effected after the constant administration of aperients and enemata. The evacuations were of a hard consistency and made up of small separate masses. Before operation was undertaken nothing had been passed by the rectum for three weeks despite the use of aperients and enemata. On Oct. 29th the abdomen was opened under ether anæsthesia. The sigmoid portion of the colon was then found markedly distended, whilst its wall, besides being unduly red, was relatively much thickened having regard to its distension—showing absence of pressure atrophy. Palpation of this viscus was rendered very difficult owing to the great tension to which all the abdominal contents were subjected. In the pelvis the rectum could be felt as a small hard tube contrasting strikingly with the bowel above the site of the obstruction. The nature of this obstruction, whatever it was, could not be discovered either then or subsequently, and a Paul's tube was therefore inserted into the sigmoid portion of the colon after fixing the bowel to the wound in the usual manner. When the colon was opened considerable quantities of a semi-fluid material were removed which had an exact naked-eye resemblance to quicksand. After this relief the distension became less and less and the abdomen was again quite flaccid in a day or two. On several occasions following the colostomy the fæces became impacted in the bowel above the opening necessitating their removal; this condition produced quite a localised tumour at the part implicated, visible to the naked eye. On Nov. 9th the wound in the bowel was sewn up by Czerny-Lembert suture, this undertaking being rendered somewhat difficult owing to the numerous and soft granulations covering the involved peritoneum; the bowel was replaced in the abdomen and a second search was instituted under more favourable conditions as regards room than on the former occasion, but in vain. Several hard fæcal masses, which were present in the rectum, were now expelled therefrom by pressure. The abdominal wound was then closed, as nothing further seemed possible, leaving a small aperture for drainage below. After the second operation the patient's general condition became bad, distension of the abdomen ensued, nothwithstanding the frequent response of the bowels to evacuants, whilst pressure over the said part produced pain; vomiting followed. There was no dyspnœa, however, at any time. Death occurred on Nov. 14th.

At the necropsy the peritoneum was found to be covered with extravasated intestinal material, for the intestinal sutures had yielded. The bowels were adherent to one another with acute kinks here and there. No obstruction nor any abnormal condition of the rectum or pelvis could be found in spite of careful search.

Previously to the above operative interference the patient had some time before been in hospital but was discharged unrelieved. The medical treatment included the use of thyroid extract, abdominal massage, aloes, and strychnine pills—all, however, to no adequate purpose.

Devonport.

NOTE ON A CASE OF MELÆNA NEONATORUM.

BY J. BASIL PAGE, M.B. LOND.

ON April 30th I was called at 7 A.M. to attend a confinement case. On arrival I found the child and afterbirth were born and the nurse reported that the case had been quite normal and that there had been very little loss before or after the birth. The child was a girl; weight 6 pounds, small, but apparently quite healthy. 36 hours after birth I was hurriedly summoned and found that the child had vomited about a quarter of a pint of blood, rather dark, and with clots. The child was given a few spoonfuls of milk and immediately vomited another quarter of a pint of blood and clots. On the next day, May 2nd, there was blood in the motion, as much as she had vomited, and the motion was very foul. On the fourth day the baby's weight had dropped to 4 pounds; since then she has been progressing well and beyond the facts that she is small and feeble there are no abnormal signs or symptoms. I am sending this description of the case to you, as I have never seen or heard of a similar case. I shall be much obliged if you can find room for this note, as I should like to know if anyone has had a similar case. I may add that the child is now slightly jaundiced.

Bury St. Edmunds.

Medical Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A MEETING of this society was held on May 15th, Dr. W. CRAIG, Vice-President, being in the chair.

Dr. G. H. MELVILLE DUNLOP exhibited: 1. A baby with a Rickety Head, in which craniotabes was unusually well marked. The infant was eight months old and was subject to frequent attacks of diarrhœa and vomiting. There was no syphilitic taint. The fontanelles in the skull were particularly open and the sutures were so wide apart that a finger could be introduced between them. The bones of the skull were particularly deficient, the occipital, temporal, and parietal bones being soft and easily bent. 2. A case of Infantile Paralysis in which the abdominal muscles on one side were affected. This was a very rare condition and it was the first case of this affection which Dr. Dunlop had seen. Dr. Sinclair of Philadelphia had described 370 cases of infantile paralysis but had never met with such a condition. Only one similar case was noted in the Johns Hopkins reports. The child was now two and a half years old and when 18 months old had an attack of infantile paralysis with fever and convulsions. The paralysis was at first widespread, affecting the left and right legs, as well as the abdominal muscles. The paralysis passed off completely from the left leg, but the right leg had always remained weak. The child could walk, but the right leg was dragged and the toes were pointed. The whole of the muscles on the right side of the abdomen were paralysed and when the child cried they were ballooned out. The affected muscles showed a complete loss of reaction to faradic currents. 3. A girl with a Peculiar Scarring of the Skin over the Lower Part of the Back, the result of an attack of herpes zoster. The scars were symmetrical and feathery in appearance. The child, when 18 months old, had had an eruption of vesicles, which became pustular; scabs formed and large ulcers which caused much pain in the lower lumbar and sacral regions. 4. A case of Cretinism after treatment extending over 14 years. Dr. James Carmichael had diagnosed the case when the patient was an infant. When first seen the large tongue was present with the wrinkled condition of the forehead, the broad hands, and other typical signs of cretinism. When the child was two years old thyroid treatment was adopted and growth took place rapidly; the flabby condition disappeared and the intelligence increased during the six months in which he was kept under observation. As the mother neglected him his condition underwent a relapse which improved under renewed treatment. He had had about seven years of continuous treatment and his present condition showed the limits which thyroid treatment might reach. Many of the symptoms of cretinism were present; he was singularly deficient in intelligence and could not be taught the simplest rudiments of education. His determination was great and he was so stubborn that he would not do anything that his mother desired.

Mr. HAROLD J. STILES showed: 1. A baby after operation for the Removal of a Large Hydronephrotic Cyst. The baby was nine months old and was healthy and vigorous, only presenting a very lax condition of the abdominal walls. When three months old the abdomen was enormously distended and this had been present at birth and had caused some difficulty during parturition. On examination a large cystic abdominal tumour was present, extending from below the ribs on the left side to the left iliac fossa and also to the right iliac fossa. The tumour was elastic, smooth, and fluctuating. No urinary symptoms were present. The condition was congenital hydronephrosis. When the child was six months old the tumour was removed through the left loin. The cyst was exposed extraperitoneally, tapped, clamped, and removed. The child made an excellent recovery, and Mr. Stiles was of opinion that such cases should be operated upon during childhood. 2. A boy after Nephrectomy for Advanced Tuberculous Pyonephrosis. The condition was first noticed a year before operation owing to frequent and painful micturition. Hæmaturia had only been observed on one occasion six weeks before his admission. No bladder disease was seen by the cystoscope. A large pyonephrotic kidney was present on the left side and was removed with difficulty because of its adherence. The ureter was ligatured but was not removed. The boy had made an excellent recovery. 3. A girl, aged nine years, after resection of the ileo-cæcal junction and part of the ascending colon for Fæcal Fistula following Suppurative Appendicitis. She had suffered from retro-cæcal appendicular abscess three months ago but at that operation the appendix had not been removed and a week later a fæcal fistula had formed. It was thought that it might have healed spontaneously but 13 months later it was in the same condition; the skin was not excoriated, however. A large mass was present in the right iliac and lumbar regions. This was resected, together with the fistulous opening. There was now no hernia even on coughing. The tumour was so adherent that in removing it an opening was made into the duodenum and a good deal of bile escaped. 4. A girl, aged 11 years, after Partial Resection of the Tibia for Tuberculous Osteomyelitis. For a year previously to operation she had suffered from a painless thickening of the upper two-thirds of the right tibia. It was tender on pressure and caused limping as well as a slight swelling of the knee-joint. The case was one of tuberculous osteomyelitis with secondary deposit of bone beneath the periosteum. Formerly the bone was opened into and was scraped, but very usually the patient returned in a month or two with recurrence of the disease. Now the bone is thoroughly exposed and the periosteum is divided, and by means of a Gigli's saw the bone is cut through in healthy tissue; the diseased bone is then wrenched free from the periosteum and from its epiphysis. The operation in the present case had been performed three years ago and now perfect re-formation of the bone had occurred. On section of the diseased bone a central sequestrum was seen and surrounding it a grey deposit of tuberculous tissue. The ulna had also been resected for a similar affection. Another case of which skiagrams were shown exhibited the disease as affecting the lower two thirds of the tibia. 5. A baby with a Large Encephalocystocele (Partial Exencephalus); the cranial bones had not developed so as to cover in the brain. The tumour overlapped the frontal and parietal bones. The dura mater as well as the bone was absent and Mr. Stiles thought that bone formation took place much more energetically from the dura mater than from the pericranium. Fluctuation from side to side could easily be made out. 6. A specimen of an Enormous Meckel's Diverticulum removed from an Inguinal Hernial Sac in a child.

Dr. J. S. FOWLER showed: 1. A child who developed Fits as a result of Syphilitic Disease of the Cortex. The unilateral fits commenced at the age of ten months and at that time the child exhibited no appearance of congenital syphilis, though this was very noticeable at present. Both parents were syphilitic. The prognosis was not good, as the fits frequently developed into a syphilitic dementia. At first the fits recurred every third or fourth day, but on putting the child on iodide (nine grains per day) the convulsions disappeared. The treatment was continued for some months and when intermitted the child became vacant and dull. The right arm and leg were not moved so freely as were the left. 2. A typical case of Posterior Basal Meningitis. This might be called a sporadic form of cerebro-spinal meningitis. The disease commenced three weeks previously with diarrhœa and vomiting, the child then suddenly became feverish and had lain in the present semiconscious condition for two weeks. There was marked head retraction with bulging of the fontanelles. The child was probably blind and dysphagia was present. Lumbar puncture showed the characteristic diplococcus. The case was identical with cerebro-spinal meningitis and it might be through these cases that the epidemic disease was kept alive.

Dr. J. W. SIMPSON showed for Dr. JOHN THOMSON: 1. A child, aged two and a half years, with Spleno-Medullary Leukæmia. The health had been perfect until six months previously, when fever, vomiting, and weakness of the legs developed. The patient was thought to have had an attack of infantile paralysis, but recovered completely. In January the child was noticed to be very pale and the abdomen to be enlarged greatly. On examination the spleen was found to be enormous, extending down into the true pelvis, and leucocythæmia was very marked. 2. A rickety child showing Large Posterior Beads on the Ribs. The ordinary rosary nodes were seen but on the posterior aspect of the ribs a line of beads were present. These were probably due to the callus thrown out round greenstick fractures caused by lifting up the infant and fracturing the rickety ribs. 3. A boy, aged 11 years, who had been under treatment for four years for Pott's disease. He had been readmitted a week ago suffering from pains in the joints and fingers. Well-marked rheumatic nodules, varying in size from that of a pin's head to that of a pea, were present, chiefly over the elbows and knees. They came out in crops and lasted about three weeks. The nodules were freely moveable and so was the skin over them. They were also found over the ankle, tendons, head, and vertebræ, and might be the only sign of rheumatism present in children. Endocarditis was nearly always present in such cases as it was in the case exhibited.

Dr. W. B. DRUMMOND showed a case of Amaurotic Family Idiocy. The disease was exceedingly rare and all the cases described had occurred in Jewish families. The child was 14 months old and was the tenth child of the family. Until her eighth month she appeared normal but since then there had been no mental development though the physical development was good. The child gradually became more and more apathetic and vision was gradually lost. The ophthalmoscope showed a greyish appearance of the fundus with a bright red spot in the macular region. The usual history was that the weakness and apathy increased and death took place as a rule at the second or third year of life. The eighth and ninth children in this family were twins, and one of them suffered from this disease; the fourth child also died from this disease and very probably the seventh child succumbed to this affection.

Dr. E. W. SCOTT CARMICHAEL showed a boy (a Mongolian idiot) who had been operated on in January for Acute General Peritonitis the result of a streptococcal infection.

Dr. A. DINGWALL FORDYCE exhibited a child with an Uncommon Skin Affection (urticaria pigmentosa) resembling specific eruption. It had been present for 14 months and disappeared when the child was in good health but reappeared during poor health.

EDINBURGH OBSTETRICAL SOCIETY.

Status Epilepticus.—Bilateral Ovarian Dermoid Tumours.

A MEETING of this society was held on May 8th, Dr. J. W. BALLANTYNE, the President, being in the chair.

Professor ROBERT JARDINE (Glasgow) read notes on a case of Status Epilepticus which commenced during labour and ended fatally after 774 fits; the infant also died after many fits. The patient was aged 27 years and in her third labour which had occurred at full time. Her father had suffered from melancholia and a sister, deceased, was afflicted with epilepsy for six years. The patient never had a fit until the onset of labour; there was no evidence of syphilis or any history of injury to the head. The fits were of the ordinary eclamptic type; there was no cry at any time; there were no swelling of the face or the legs and no headache until the evening prior to admission to the maternity. She had 21 fits before being seen. She was then put under chloroform, 16 ounces of blood were drawn from the arm, and three pints of saline solution (one drachm each of sodium chloride and sodium acetate to the pint) were transfused. As the os was half dilated it was dilated completely with the hand and the child was delivered by version. There was considerable bleeding from the lacerated cervix which was afterwards stitched with catgut. For eight hours she was free from fits and could be roused to answer questions. In the following two hours she had 14 fits; a hot pack was given and for five hours there was no recurrence. Two more pints of the saline solution were injected into a vein. She perspired freely. The urine was found to be quite normal without a trace of albumin. On the day after labour the fits returned and were treated with rectal injections of chloral and bromide and more saline injections. Repeated lumbar punctures were then made but no cerebro-spinal fluid could be obtained, but some hours afterwards about an ounce of fluid was withdrawn, which was very slightly opalescent, and the deposit contained polymorphonuclear leucocytes with a large number of small mononuclear leucocytes. The withdrawal did not produce any change in the patient's condition. The fluid escaped from the needle by drops except during the fits when it ran freely. The fits continued very frequently. Stovaine was injected into the spinal canal and in a few minutes the lower limbs were paralysed, followed by diminution of the movements of the arms; the patient became extremely collapsed and the pulse disappeared from the wrist. As she seemed to be dying strychnine was given hypodermically and milk with brandy was injected by a tube into the stomach. The pulse rapidly returned but the collapse continued for a considerable time. On the third day the fits were recurring at the rate of from six to 14 per hour; the kidneys, bowels, and skin were all acting well. Morphine subcutaneously was tried. On the fourth day the fits were almost continuous, up to 32 in one hour. The question of trephining was discussed but it was considered that it would be of no avail. The patient sank that evening. The number of fits recorded was 774. The fits, though so numerous, did not appear to be very exhausting. The infant, who weighed seven and three-quarter pounds, was asphyxiated at birth, but was easily resuscitated. The colour never became quite satisfactory. The child lived for three days and during that time the body was more or less in a state of rigidity, becoming much more marked at intervals. Though there were no convulsions yet many of these fits of rigidity occurred, the body at times assuming a position of opisthotonos, and the fit was accompanied with a peculiar distressful cry and cyanosis. The urine contained a considerable amount of albumin. Chloral hydrate was given to the child in grain doses every hour. On *post-mortem* examination the mother's brain showed marked engorgement of the vessels, much more evident on the left side; the spinal cord seemed normal; the kidneys were fairly normal but there were indications of an old parenchymatous nephritis. The infant's brain showed similar engorgement of the vessels as in the mother's, only both sides were equally affected. Professor Jardine referred to the recent book on Epilepsy by W. A. Turner, where the influence of pregnancy, the puerperium, and lactation is given with the history of 61 pregnancies in 41 epileptic women. Quickening induced a relapse in seven cases. Pregnancy was the original cause in two cases, induced relapse in 14 cases, was temporarily beneficial in six cases, and made no difference in one case. Accouchement was the original cause in five cases and induced a relapse in 17 cases. Lactation was the original cause in three cases and induced a relapse in six cases. With the statement that many cases of puerperal eclampsia are really examples of serial epilepsy or the status epilepticus Professor Jardine disagreed, as he had only seen three patients out of considerably more than 100 cases of puerperal eclampsia who could be considered epileptic. In two there was a history of previous epileptic seizures and in the third there was no albumin in the urine. He had never seen a case of eclampsia in which there was no albumin in the urine. If he had a similar case under his care again he would be inclined to try lumbar puncture and the injection of bromide.

Professor Jardine gave short notes of another case that was quite recently delivered by vaginal Cæsarean section under Dr. J. M. Munro Kerr's care in the Glasgow Maternity. The patient had suffered from fits in her first pregnancy, five years ago, from the third month onwards. In the interval between her first and second pregnancies she had suffered from *petit mal.* She was admitted in her second pregnancy at seven and a half months suffering from fits. There was no œdema. A very faint trace of albumin was present in the urine. She had 49 fits in the four days before and including that on which the operative delivery was carried out, 42 fits on the following day, nine on the next, and two on the next, when they ceased. She was treated with intravenous injection of saline infusion, morphine hypodermically, and chloral and bromide.—Dr. James Ritchie, Dr. F. W. N. Haultain, Dr. J. Haig Ferguson, Dr. W. Fordyce, Dr. F. Porter, and the President made remarks on the paper, and Professor Jardine replied.

Dr. Malcolm Campbell read a paper on Bilateral Ovarian Dermoid Tumours complicating Pregnancy. The rarity of bilateral ovarian dermoids was referred to and the details of a case were given. The patient was 32 years old, had been married for 12 years, and had five children. Prior to admission to hospital she had had amenorrhœa for three months and complained of severe pain in the abdomen. A swelling had been noticed in the right side for six months. On laparotomy being performed an ovarian cyst of about the size of a fœtal head was removed from the right side. The left ovary was also removed, being cystic and of about the size of a hen's egg. Both tumours proved on examination to be dermoid cysts. Six months after the operation she was delivered of a full-time healthy child. The influence of the corpus luteum and its supposed secretion on pregnancy in relation to this case was discussed by Dr. Haultain, Dr. Fordyce, and the President, and Dr. Campbell replied.

Leeds and West Riding Medico-Chirurgical Society.—A meeting of this society was held on May 10th, Dr. A. H. Bampton being in the chair.—Mr. A. E. A. Pearson read a paper entitled "Notes on Cerebro-Spinal Fever."—Mr. Pearson read a paper on Notes on Cerebro-spinal Fever made during a recent visit to the Purdysburn Fever Hospital of the Belfast Corporation. Mr. Pearson gave a brief description of six cases sent to the Leeds Fever Hospital as doubtful cerebro-spinal fever, the greater number of which were cases of tuberculous meningitis, one was a case of typhoid fever, and one was a case of cerebro-spinal meningitis of diplococcic origin but probably not of the specific diplococcus of Weichselbaum. Notes of the latter case were read. In the differentiation of meningitis due to tubercle on the one hand and to diplococci (Weichselbaum's pneumococci or Still's) on the other, stress was laid on the gradually increasing and comparatively early coma usually found in cases of tubercle and to its comparative absence in cerebro-spinal fever, except in the very acute or apoplectic forms. In Mr. Pearson's experience it also seemed that on spinal puncture being made the serum in cerebro-spinal fever was less in quantity and less clear than in tuberculous meningitis. Paralyses and fundus troubles were also less frequent. Mr. Pearson, in referring to the Belfast cases, drew particular attention to early vomiting, headache, delirium of marked character, and loss of consciousness, the last of which, except in the acute fulminant forms, tending to clear soon; also to the early exaggerated retraction of the head, which appeared to be not so marked in adults, to the extreme emaciation, to facial herpes on the third or fourth day of the disease, and to the presence of a petechial eruption on the trunk and limbs in some 30 per cent. of the cases. It was noted that hyperæsthesia was marked in all cases in the acute stages and the presence or absence of Kernig's sign varied, being apparently marked in the early stages and in the later recrudescence of the cerebral symptoms. Small enlargements of the cervical, axillary, and inguinal glands were noted in many of the cases seen. The recorded temperatures of the patients showed extreme irregularity with no defined course and were of a markedly "spiked" kind, some records showing morning elevation and evening depression. The pulse records showed the same wide variety of range. Cardiac murmurs were noted in one or two cases. There seemed to be a tendency to recrudescence or relapse in the third or fourth week, evidenced by return of vomiting, retraction of the head, and intermittency of fever, after the patient had had a period of quietude from symptoms and a feeling of comparative well-being. Convulsions and paralysis did not seem to be of frequent occurrence. Several had paralysis of the external rectus of the eye and nystagmus [illegible] Conjunctivitis and suppurative eye-disturbance were fairly common.—Professor A. S. F. Grünbaum, who also exhibited a specimen showing the diplococcus intracellularis in the cells, Dr. J. E. Eddison, Dr. A. G. Barrs, Dr. T. W. Griffith, Dr. E. F. Trevelyan, and Dr. O. Porter joined in the discussion.—The following specimens were shown:—Mr. C. E. Dawson: A Portable Apparatus for the Administration of Oxygen at the bedside.—Dr. Barrs and Mr. A. Hawkyard: Complete Hydatid Cyst of the Lung, spat up, with skiagram of the chest.—Dr. Trevelyan: A case of Tuberculous Laryngitis one year after laryngotomy was performed for symptoms of obstruction.—Mr. W. Gough: Specimen of Epithelioma following a scar-horn.—Mr. J. J. Anning: Heart with Extreme Stenosis of the Pulmonary Valve from a boy, aged 13 years, dying from pulmonary tuberculosis.—Mr. R. G. Hann: Heart showing Ruptured Aortic Valve.—Dr. W. H. Maxwell Telling: Extremely Cirrhotic Liver from a girl, aged 13 years; (with Dr. O. C. Gruner) Specimen of Acute Infantile Bronchiolectasis.—Specimens and cases were also shown by Mr. Pearson, Mr. L. A. Rowden, Dr. A. L. Whitehead, Dr. J. Allen, Dr. J. Stewart, Dr. T. Churton, Mr. H. Littlewood, Dr. M. B. Ray, Mr. J. F. Dobson, and Mr. B. G. A. Moynihan.

Wigan Medical Society.—A meeting of this society was held on March 21st, Dr. Ferdinand Rees, the President, being in the chair.—A paper on Digitalis, Strophanthus, and Squills in the Treatment of Heart Disease was read by Dr. John Hay.—An interesting discussion ensued and the following members took part: Dr. J. Blair, Dr. A. E. Hodder, Dr. R. Prosser White, Dr. A. Matheson, Dr. K. Fraser, Mr. M. H. Enright, Mr. C. M. Brady, and the President.—A cordial vote of thanks was accorded to Dr. Hay for his paper.——A meeting was held on May 9th, Dr. Rees, the President, being in the chair.—A paper on Ectopic Gestation, which took the form of an address, was given by Professor H. Briggs, numerous specimens and beautiful drawings being exhibited.—A discussion ensued and the following members took part: Dr. Blair, Dr. M. Benson, Mr. W. Latham, Mr. E. H. Monks, Mr. Enright, Mr. C. F. France, Dr. E. Colston Williams, Dr. Matheson, the President, and the honorary secretary.—A cordial vote of thanks was passed to Professor Briggs for his interesting address.

Reviews and Notices of Books.

The Essentials of Chemical Physiology. By W. D. Halliburton, M.D. Lond. Sixth edition. With 82 figures in the text. London: Longmans, Green and Co. 1907. Pp. 258. Price 4*s.* 6*d.* net.

When a work such as the above, written by a teacher of such wide experience as Professor Halliburton, reaches its sixth edition this alone is enough to mark the firm hold which it has on the student of medicine and also seems to show that it has fulfilled its function—namely, that of giving a concise and yet sufficient account of chemical physiology for students of medicine. The present edition shows some changes from previous editions; a few alterations are introduced in the text in small type—that is, the practical exercises which are the outcome of extended experience in the teaching laboratory. The text in large type is descriptive rather than practical and in it we find considerable modifications, more especially in the chapter devoted to proteins (the word "proteid" has been got rid of). The proteins are now classified as follows: Protamines, histones, albumins, globulins, sclero-proteins, phosphoproteins, and conjugated proteins, which last include (*a*) gluco-, (*b*) nucleo-, and (*c*) chromo-proteins. A very full exposition is given of the many new results of investigations on these bodies both in their chemical and in their physiological relations, such as the way in which they are utilised in the body. The other two sections which have been amplified are those on blood coagulation and respiration. Additions have also been made to the advanced part. More especially in this part, in the appendix, will the advanced student find much that is of fundamental importance—indeed, of far more importance than a knowledge of tests and reactions, such as polarimeters, the relation between circular polarisation and chemical constitution, dialysis and osmosis, ions and osmotic pressure, and freezing points in relation to osmotic pressure.

The work meets fully all the wants of the average medical student so far as a knowledge of chemical physiology is concerned.

Traité de Pathologie Interne. (*Treatise on Internal Pathology.*) Par G. LEMOINE, Professeur de Clinique Médicale à la Faculté de Médecine et de Pharmacie de Lille, Médecin de l'Hôpital Saint-Sauveur. In two volumes. Vol. I., pp. 1011; Vol. II., pp. 1015. Paris: Vigot Frères. 1905. Price 16 francs.

THE title of Professor Lemoine's book when translated literally into English is somewhat misleading, since the work is a descriptive text-book of medicine, each disease or morbid condition being described from a clinical standpoint as well as from the pathological point of view. Its special feature is the application of pathology to the elucidation of the phenomena of disease and in general arrangement it conforms closely to some of the English text-books of medicine, notably the well-known one of Professor Osler. Each disease is briefly defined, a paragraph is devoted to its history, then its etiology, pathology, symptomatology, diagnosis, and prognosis are considered, while a brief paragraph on treatment, or rather the main principles which determine treatment, is appended. The sections on the history of the various maladies are good and in many of them justice seems to have been done to the work of English investigators, which makes it all the more surprising that in the consideration of malaria although the main outlines of the work of Ross and Manson are given their names are not mentioned in connexion with the disease.

The first volume deals with the infectious diseases, disorders of nutrition, and diseases of the blood and of the respiratory and circulatory systems. In all cases the descriptions are clear, and the problems which are involved in the pathology and etiology of each disease are discussed in an interesting and critical manner. The symptomatology is in every case detailed and arranged conveniently. In some of the less common diseases the descriptions are unusually exact and should be useful for purposes of reference. It is interesting to note in several instances the different grouping adopted from that usual in this country; for instance, one section entitled "Infectious Pseudo-rheumatism" deals with the various affections of the joint which are sometimes observed in association with the following conditions: gonorrhœa, septicæmia, scarlet fever, erysipelas, syphilis, typhoid fever, variola, mumps, influenza, measles, and diphtheria, each of which is separately considered. This arrangement is a convenient one and illustrates the similarity in origin of these various conditions. In considering diseases of the lungs primary active congestion is regarded as a disease distinct from pneumonia, and three forms are described—the pneumonic type or Woillez's disease, the pleuro-pulmonary type, and the spleno-pulmonary, each of which is dealt with separately. The diseases of the pleura are most carefully discussed and the account of inter-lobar empyema is the best with which we are acquainted. The frequency with which this condition results in the expectoration of pus is indicated and attention is drawn to the fact, first pointed out by Dieulafoy, that in some cases a fœtid odour of breath, probably due to commencing leakage, occurs as much as from 24 to 36 hours before the actual rupture of the abscess. The section devoted to diseases of the heart and blood-vessels is prefaced by a chapter on Cardiac Semeiology which forms an interesting introduction to their study. The general descriptions of the individual lesions conform closely to those in English text-books and there is little noteworthy about them. Here, again, although Professor Lemoine frequently quotes English authorities in his historical accounts he refers but little to contemporary English writers.

The second volume deals with the diseases of the digestive tract, the liver, the peritoneum, the pancreas, the kidney, and the nervous system, and with certain intoxications. Diseases of the digestive organs are described in considerable detail and the different morbid conditions are clearly distinguished. Among the sections of special interest may be mentioned those dealing with hyperchlorhydria, of which three forms are differentiated—that with paroxysms at intervals, that with daily attacks, and the continuous form or Reichmann's disease. Cirrhosis of the liver is also very well described and the main classification is very closely similar to that usually adopted in this country, although many extra varieties are separated. The morbid conditions referred to the liver in association with tuberculous disease are also more numerous than those usually recognised by English writers. Diseases of the pancreas, on the other hand, receive but little consideration, acute and chronic pancreatitis and cancer of the pancreas being the only conditions of which an account is given. More than half of the second volume is devoted to diseases of the nervous system, which are very thoroughly considered. This section is illustrated by numerous anatomical drawings, diagrammatic figures, and reproductions from photographs which serve to enhance the descriptive value of the text.

The treatise, as a whole, forms a useful text-book and one which we can strongly recommend. It is, moreover, written in the pleasing literary style which we are accustomed to expect from French physicians.

Essays in Pastoral Medicine. By AUSTIN O'MALLEY, M.D., Ph.D., LL.D., and JAMES J. WALSH, M.D., Ph.D., LL.D., &c. London, New York, and Bombay: Longmans, Green, and Co. 1906. Pp. 363. Price 10*s.* 6*d.*

THE intention of the authors of this book is to discuss questions which lie upon the borderland of medicine and theology, for the benefit and information of the physician and the clergyman. The volume will, we think, be found equally helpful to both and is up to date. The avowed object of the authors in publishing these essays is "to offer the medical doctrine of the present day on the questions considered, and that as completely as is necessary to draw the moral inferences." Dr. O'Malley is pathologist and ophthalmologist to St. Agnes Hospital, Philadelphia, and Dr. Walsh is adjunct professor of medicine at the New York Polyclinic School for Graduates in Medicine and professor of nervous diseases and the history of medicine, Fordham University, New York. The book shows ample evidence of the capacity of the writers and of their careful and conscientious study of all points discussed.

The range of subjects covered is vast, including Ectopic Gestation; Abortion; Miscarriage and Premature Labour; the Cæsarean Section and Craniotomy; Human Terata in reference to Baptism; Heredity, Physical Disease and Moral Weakness; Certain Aspects of Intoxication; Social Medicine; Hypnotism; Suggestion and Crime; the Exact Moment of Death; School Hygiene; Criminology and the Habitual Criminal; Paranoia, a Study in "Cranks"; Suicides; Syphilis and Marriage; Social Diseases; Impotency in the Male and Female; Neurasthenia; Hysteria; Menstrual Diseases; Disease and Responsibility; Epilepsy and Responsibilities; Impulse and Responsibility; besides many other topics of great interest, such as Bloody Sweat. Needless to say, such a variety of subjects opens a boundless field for discussion, which the authors have not failed to avail themselves. The dissertations upon Ectopic Gestation, Abortion, Miscarriage and Premature Labour, as well as those on Cæsarean Section and Craniotomy are specially interesting. They may not satisfy all readers, but that would be impossible. It is certain that able theologians differ upon some important points concerning these subjects and it should not be forgotten that it is one thing to sit down in the study and to put forward views upon different problems and quite another matter to stand by a bedside as a physician, and as such to decide, while one or more lives are at stake what is the right course before God to pursue.

We think that many physicians and clergymen who of necessity are deeply interested in the topics at issue will be glad to find a place for this volume in their libraries. We know only one other treatise on the same lines and that is Medicina Pastoralis by Dr. C. Capellmann, Aquisgrani, Sumptibus Rudolphi Barth, 1890. This work, however, has, we regret to say, a limited value, for it is written not only in Latin but in scholastic Latin, a language with which many busy practitioners have but little acquaintance. The publishers of these "Essays in Pastoral Medicine" have done their part admirably.

LIBRARY TABLE.

Dental Materia Medica, Therapeutics, and Prescription Writing. By ELI H. LONG, M.D. Illustrated with seven engravings and 18 coloured diagrams. Second edition, thoroughly revised and enlarged. London: Hodder and Stoughton. 1906. Pp. 298. Price 15s. net.—This book embraces all that the dental surgeon requires in the conduct of his practice. The contents are divided into four parts. In the first general matter connected with drugs and medicines is considered—namely, their constituents, classification, methods of administration, action, and so on. Parts II. and III. deal with local and general remedies. The drugs are not dealt with alphabetically but are classified under definite headings, such as depletives, escharotics, bleaching agents, alteratives, and sedatives. This plan certainly has advantages but it also has disadvantages, as it does not clearly bring out the general properties of individual drugs. The question of prescription writing, together with a table of poisons and antidotes and an index of drugs form Part IV. From many points of view the book is excellent, one feature being the capital diagrams illustrating the action of important drugs, such as cocaine, belladonna, and ether. Into the subject of anæsthesia the author enters fully and he has some very sensible remarks on the use of patent preparations.

The Care and Nursing of the Insane. By P. J. BAILY, M.B., C.M. Edin. London: The Scientific Press, Limited. 1907. Pp. 97. Price 1s. net.—The first part of this book consists of a short *résumé* of the anatomy and physiology of the human body. The author endeavours to make his descriptions of these subjects as simple as possible but in so doing he is sometimes misleading and is liable to leave a wrong impression upon the mind of the reader. The account of the circulation of the blood is good and the physiology of the digestion is also lucidly given. Taken as a whole this will be found a useful little volume for teaching purposes and it also has the advantage of being cheap and well illustrated.

Case Teaching in Medicine. By RICHARD C. CABOT, B.A., M.D. Harvard, Instructor in Medicine in the Harvard Medical School. Boston, U.S.A.: D. C. Heath and Co. 1906. Pp. 214.—In this book the author supplies a series of graduated exercises in the differential diagnosis, prognosis, and treatment of actual cases of disease. As Dr. Cabot says in his introduction, the most important lesson to be learned by every student of medicine is the art of recognising the *physical signs of disease.* With the basic facts we can become familiar only by direct contact with patients and by long practice. But these data of physical diagnosis have to be interpreted. They do not crystallise spontaneously into conclusions. They do not arrange themselves in those groups which we call diseases. They have to be worked up into diagnoses by a reasoning process and this process needs practice. To aid the teacher in training his pupils to think clearly, cogently, and sensibly about the results of physical examination is the object of this book and to this end Dr. Cabot narrates and considers a series of well arranged and instructive cases. The book should be useful to advanced students as well as to practitioners.

Norway as a Winter and Summer Health Resort. By A. MAGELSSEN. Kristiania: Printed by Nikolai Olsen. 1906. Pp. 48.—Many of our readers will remember the description of the inhospitable Scandinavian climate given in the opening chapters of Voltaire's "History of Charles XII. of Sweden." In the present work Mr. Magelssen gives a different view of the same phenomena, showing that Norway, although agriculturally unimportant, nevertheless offers remarkable climatic advantages to seekers after health. In spite of its northerly position mild south-westerly winds prevail and the ocean currents which flow to the coasts help to raise the temperature. One effect of this is that the Norwegian coast temperature is much higher than might have been expected, for the January isothermal of – 5° C. coincides with the whole Norwegian coast. For the purpose of comparison it may be mentioned that the January isothermal of + 5° C. (i.e., 10° C. higher) passes almost in a straight line from Liverpool to near Bordeaux. Norway has, of course, for many years been a favourite summer resort of tourists from Great Britain and certain parts of continental Europe but the work before us is principally devoted to the therapeutic possibilities of the country. It is therefore pointed out that the greatest part of the west coast does not, in spite of the exceptional winter temperature, present a convenient climate for sick persons. The winter is comparatively mild but also damp and windy, whilst the summer is neither dry nor warm. Districts more inland, and especially the alpine and subalpine ones, are therefore recommended for patients. The alpine climate in Norway is reckoned as being between 2500 and 3000 feet above sea level and the subalpine climate as being from 1500 to 2500 feet above sea level. The author states that in winter, spring, and autumn, when residence at the higher levels is impracticable, invalids will find the climate of the subalpine or lower mountain belt much better than that of the lowlands. Various parts of the Gudbrandsdalen area supply examples of both alpine and subalpine regions.

The Special Temptation of Early and School Life. By C. G. WHEELHOUSE, F.R.C.S. Eng., D.Sc. Fourth edition. Leeds: H. Walker. Price 3d.—This pamphlet was first published in 1885 at the request of the Ripon Diocesan Conference; it is an attempt to solve the difficulty of approaching a pure and healthy-minded child on the subject of sex and the mischief of onanism. There is probably now a consensus of opinion that boys on nearing the age of puberty should not be kept in ignorance of the nature of the generative mechanism and the evils consequent on its abuse, knowledge being preventive of prurient curiosity and its attendant evils. Mr. Wheelhouse has undertaken the difficult task of presenting the necessary knowledge to an innocent-minded child who is about to enter a large school; the pamphlet is to be put in the latter's hands for a time sufficient for him to master its contents and then to be returned to his father or master. If the boy does not fully understand it the ice is broken for further explanation. The author has well discharged his task and the book in the hands of a young child should be productive only of good; the subject is approached with tact and explained on lines of natural law. The utility of the pamphlet has, no doubt, been already great and we believe that many of our readers may like to know that a fourth edition has appeared.

The Infant, the Parent, and the State. By H. LLEWELLYN HEATH, L.S.A., D.P.H. Cantab. London: King and Son. Pp. xv.–191. Price 3*s.* 6*d.*—We trust that the increased production of books intended for public distribution on the problems of infant life and death is the consequence of a real demand for them; provided they are written by a competent authority who can command even a limited audience amongst intelligent persons, we are in complete sympathy with them. The work before us is not only written with a full knowledge of the statistics and results of other authorities but is enriched with some interesting information gathered by the author himself. An analysis in a large town, for instance, of an infant mortality-rate of 151 per 1000 below the age of 12 months revealed the fact that during the first week of life the rate was so high "that were it to continue at the same figure for 42 weeks every infant born alive would have succumbed within such period." The author's observations support Dr. Vilderman's experience in Paris that the death-rate is four times as great amongst bottle-fed babies as amongst those nourished at the breast; in fact, breast-feeding may be said to be the predominant note in this book. So strongly does the author feel on this point that he condemns the distribution by local authorities of pamphlets of instruction in proper methods of hand-feeding, as he considers that they may unduly exalt the latter method. But there are two sides to this question: it is extremely doubtful whether any mother who intended to suckle her child would be deterred by such a pamphlet, and many ignorant mothers who would in any case bring up the child by hand may by this means be led into correct ways of doing so. Mr. Heath reviews the methods of milk distribution for hand-fed babies adopted in London and gives an appreciative account of the late Professor Budin's admirable work in the establishment of the French "Consultations de Nourrissons"; he shows, moreover, that this system may be extended at little expense. The extreme importance of the proper feeding of the pregnant and lactating mother is insisted upon as is also the responsibility of the State in its illegitimate children. The book is certainly a useful contribution to the subject with which it deals and in the hands of people with leisure and inclination to devote themselves to social work may well be productive of practical good.

JOURNALS AND MAGAZINES.

The Journal of Anatomy and Physiology. April, 1907. London: Charles Griffin and Company. Price 6*s.* net.—This number contains the following articles: 1. Description of a Human Embryo of 23 Paired Somites, by Peter Thompson, M.D. Vict., Professor of Anatomy, King's College, London. With three plates and five illustrations. Professor Thompson gives a very interesting description of a wax-plate model of an embryo which he constructed from one measuring 2·5 millimetres obtained at an operation. The total length of the model when completed was 244 millimetres. In addition, other models of special organs—viz., the heart, the brain, a part of the alimentary canal, and the septum transversum—were constructed. The nervous system was closed except in the region of the tail where there was a posterior neuropore. The author points out that late closure of the caudal portion of the neural tube is not the invariable rule and enumerates five cases from the literature in which variations have occurred. "With differences such as these it seems impossible to state any definite time, length of embryo, or number of somites with which complete closure might be associated." The flexures of the brain in this specimen differed so much from those which are generally regarded as primary cerebral flexures that Professor Thompson suggests the possibility of the formation of temporary bends which precede the primary flexures usually described. Two lung buds are visible as outgrowths behind the fourth pair of pharyngeal pouches. This lends support to the view of "a few who believe in a paired anlage and regard the mammalian respiratory apparatus as arising from primitively paired structures." The model of the heart is of special interest in that it contains a clear indication of a fourth chamber, the bulbus cordis. A description of the septum transversum and the liver is to be published at a later date. 2. The Form and Nature of the Muscular Connexions between the Primary Divisions of the Vertebrate Heart, with eight illustrations, by Arthur Keith, M.D. Aberd., and Martin Flack, B.A. Oxon. In a paper contributed to THE LANCET of August 11th, 1906, p. 359, the writers confirmed and extended the discovery of Tawara relating to the system of peculiar musculature (the auriculo-ventricular system) within the mammalian heart. The present paper sets forth the results of an extended inquiry made with three objects in view: (1) to ascertain the extent, nature, and position of the muscular connexion or connexions between the primary divisions of the heart in all classes of the vertebrate kingdom; (2) to seek in the sinus, auricle, and bulbus cordis for a differentiation in form and structure of a system of muscle fibres corresponding to that now known to exist in the ventricle; and (3) to trace the evolution of the auriculo-ventricular muscular system as found in the human heart from the simpler and more definite form seen in the hearts of fishes. The hearts examined were obtained from fishes, amphibia, reptilia, birds, and human and other mammals; the method of preparation, a modification of Kaiserling's, is fully described. The results of the investigation are tabulated in a concise summary. 3. A Three-chambered Heart in an Adult, aged 35 years, by Professor A. H. Young, F.R.C.S. Eng., LL.D., University of Manchester. Illustrated. The patient to whom this heart belonged presented the usual signs of one suffering from chronic heart disease. The area of cardiac dulness was increased; the apex beat was in the fifth interspace slightly to the left of the nipple line; there was no thrill. A systolic murmur was audible on auscultation. At the necropsy the external appearances of the organ suggested no abnormality. Further examination revealed only a single functional ventricle containing practically no trace of a division. The inter-ventricular septum was represented by a small ridge situated about the middle of the posterior wall of the common ventricle, while a larger ridge on the right of the posterior wall represented the right infundibular band. The remains of the bulbus cordis, in the shape of a small triangular fossa, were situated immediately to the right of the latter ridge. The aorta and pulmonary arteries were transposed. The paper concludes with some observations on the Causation of Cyanosis by Professor J. Lorrain Smith. 4. New Studies on the Folding of the Visual Cortex and the Significance of the Occipital Sulci in the Human Brain, by Professor G. Elliot Smith, M.D., F.R.S. Illustrated. This is an abstract of one section of a paper read before the Anatomical Society of Great Britain and Ireland in Belfast in 1906 and is also a sequel to an article published in the Records of the Egyptian Government School of Medicine, Vol. II., 1904. 5. Report on a Cranium with greatly Reduced and Irregular Dentition, by W. L. H. Duckworth, M.D. Cantab., Sc.D. The cranium described is a recent addition to the Anatomical Museum. 6. Description of a Human Cranium from Walfisch Bay, South-west Africa, by W. L. H. Duckworth. The writer points out that "apart from the anomalous condition of the malar bones (os malare bipartitum), the small size of the skull suggests a comparison with the female Bush cranium, but, on the other hand, the conformation of the face is entirely unlike that of the ordinary Bush skull." He also refers to the resemblances between the Walfisch Bay skull and one labelled "Bushwoman" in the Cambridge collection and suggests that both are representatives of races inhabiting South-west Africa and only remotely allied to the true Bush race. 7. Some Rare Abnormalities in Teeth, by W. Ramsay Smith, D.Sc. Adelaide, M.B., C.M. Edin., Adelaide, South Australia. Illustrated. 8. Notes on a Prehistoric Skeleton found in a Cave in Littondale, Yorkshire, by C. A. Hill, B.A., M.B., B.C. Cantab. *Illustrated.* Dr. Hill considers the skeleton to be that of a woman who lived towards the termination of the Bronze age and from the fact that there is a jagged hole above the right mastoid process, which might have been caused by a weapon, thinks that she must have hidden in the cave and there succumbed to her injuries. The configuration of the femur is highly suggestive of the antiquity of the skeleton. 9. (*a*) Abnormalities of the Pyramidal Tracts; (*b*) The Causation of the Symmetrical Thinning of the Parietal Bones in Ancient Egyptians; (*c*) on Certain Peculiarities of Brains Lacking a Corpus Callosum; and (*d*) Asymmetry of the Brain and Skull, by Professor G. Elliot Smith.

The Scottish Medical and Surgical Journal.—The May number of this journal deals, so far as the original articles are concerned, entirely with therapeutics. Dr. E. F. Macleod Neave discusses the action of digalen, a new preparation of digitalis introduced by Professor Cloetta, and decides that it is less powerful and more expensive than the official tincture or digitoxin; it possesses the advantage of being less irritant. Dr. Angus McGillivray speaks highly of argyrol in ophthalmic practice in spite of its failure *in vitro* as a germicide, and Dr. J. S. Purdy records some satisfactory results in the treatment of gonorrhœa by irrigation, which were dealt with in THE LANCET of May 18th, p. 1377. For the treatment of acute otitis media Dr. Henry Peterkin recommends free and early incision of the membrane and the use of peroxide of hydrogen; he deprecates allowing the patient to insufflate boric acid or other powder. Dr. J. McIntosh summarises the results which he has obtained in the Royal Aberdeen Hospital for Sick Children from the use of tuberculin (T.R.). The opsonic index was raised by the treatment ($\frac{1}{500}$th of a milligramme every ten days) but the general results were not encouraging.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

DESICCATED SOUPS.

(Henderson and Co., Star Chambers, 30, Moorgate-street, London, E.C.)

We have received a number of desiccated soups which we understand are prepared from formulæ designed by Captain Cookesley. We have made practical experiments with these soups with the most satisfactory results; they are one and all palatable and appetising. It speaks well both for the choice of ingredients and their preparation in a more or less dry state that a pint of good soup can be quickly prepared from a small tin full of a powder which does not look particularly interesting. We are inclined to give the palm to the mulligatawny soup which is really excellent, and to the soup described as special antarctic. Besides these, however, there were green-pea soup (which is quite good), pea soup, and Scotch broth.

(1) SOLOID NIZIN; (2) ELIXOID PINE TAR COMPOUND; AND (3) ELIXOID FORMATES COMPOUND.

(Burroughs, Wellcome, and Co., Snow Hill Buildings, London, E.C.)

1. Nizin is described as a zinc salt of sulphanilic acid and while being a powerful antiseptic is said to be without local irritation on application; it is also claimed that its absorption does not lead to toxic symptoms. A strong solution of the salt does not coagulate albumin. Nizin is suggested for use in urethral and vaginal injections and in eye affections. The soloid contains two grains of the zinc salt. 2. The elixoid pine tar compound is an elegant fluid preparation with agreeable flavour containing pinol, tar, terpin hydrate, Virginian prune, tolu balsam, and ipecacuanha. The formula suggests the probable value of this compound in the treatment of respiratory affections. 3. We have already referred to the tonic and stimulating effect on nerve and muscle following the internal administration of the formates. The elixoid formates compound contains the formates of calcium, sodium, and magnesium. There is nothing objectionable in regard to the flavour of the compound; on the contrary, it is pleasant.

SAUTERNE.

(Hatch, Mansfield, and Co., 47, Pall Mall, London, S.W.)

It is correct to describe this wine, though it may be in colloquial terms, as being clean on the palate, light, and delicate. We have not examined a Sauterne of a lower alcoholic strength than this wine. There can be little doubt that the colouring matters, and with these the tannin of red wines, disagree with some people and in such cases a light Sauterne such as this is dietetically suitable. Analysis showed the following results: alcohol by weight, 10·08 per cent.; by volume, 12·49 per cent.; extractives, 2·95 per cent.; mineral matter, 0·25 per cent.; sugar, 1·00 per cent.; fixed acidity reckoned as tartaric acid, 0·50 per cent.; and volatile acidity reckoned as acetic acid, 0·17 per cent. The wine contains a small quantity of sulphurous acid derived, doubtless, from the "sulphuring" of the cask. There is no objection to sulphurous acid, so long as the amount is kept within limit. We have examined no sample of Sauterne free from it, its presence being necessary to provide against undesirable secondary fermentation.

"SANCOL" GRAPE JUICE.

(Compagnie Française des Vins Fins Sans Alcool, 4, Lime-street, London, E.C.)

The samples sent to us are stated to be grape juice from the Touraine, Bordeaux, and Bourgogne districts. We examined them carefully and found that they are substantially as described—i.e., unfermented, free from alcohol, and free from preservatives. They represent in fact fresh grape juice which has been pasteurised. We give the analysis of the grape juice from the Touraine district: extractives, 17·30 per cent.; sugar, 16·65 per cent.; mineral matter, 0·15 per cent.; and tartaric acid, 1·00 per cent. The samples possessed a pleasant acidulous flavour.

GOATS MILK.

(J. Verity, Hope Villa, Birkbeck-road, Beckenham.)

There are points about goat's milk in connexion with infant feeding which deserve more attention than they have hitherto received. It is well known, for example, that the goat is remarkably resistant to tuberculosis; moreover, the milk appears to be more digestible than cow's milk because its casein forms a flocculent rather than a hard, cheesy curd. It has been stated, however, that the unpleasant odour of goat's milk is an unfavourable feature. As a matter of fact, goat's milk can be as sweet in this regard as cow's milk so long as the animals are kept under clean and proper conditions. A sample of goat's milk submitted to us by the above firm was perfectly sweet to the taste and smell, and there was no suggestion at all of the so-called goat flavour. The milk represents the drawing from a mixed herd which is entirely stall fed, the dry foods given in the winter being replaced by a liberal allowance of grass and green-stuff in the summer. The animals are carefully groomed and their udders are washed daily. On analysis the milk gave the following results: total solid matter, 14·57 per cent.; milk sugar, 5·05 per cent.; fat, 5·27 per cent.; protein 3·43 per cent.; and mineral matter, 0·82 per cent. It will be seen that the milk is of excellent quality, containing a maximum proportion of fat. The sample was contained in a glass bottle fitted with a patent disc cover.

COLD CREAM.

(BARNETT AND CO., 126, BRISTOL-STREET, BIRMINGHAM.)

"Cold cream" is a useful application and it is important that it should be made with good and pure materials. We believe this to be the case with this sample. It is beautifully white and is satisfactorily compounded with water. The oily basis is permanent and proof against becoming rancid. The evaporation of the water in cold cream accounts probably for its cooling quality.

PLASMON BREAD.

(LOWE AND SONS, 72, PRINCES-SQUARE, LONDON, W.)

Plasmon bread represents bread in which the proteins have been augmented by the addition of plasmon or milk protein. Our analysis confirms the statement in regard to this addition, for the total protein in the bread was 7·81 per cent. which represents a considerable advance on the protein contents of ordinary bread. The average amount of protein in ordinary white bread is 6·0 per cent. It is, however, frequently much lower in bread made from indifferent flours. The moisture amounted to 44·12 per cent. and the mineral matter to 0·52 per cent. The texture of the bread is excellent and its flavour is satisfactory. In practice it requires some skill to incorporate adjuvants with the dough and at the same time to produce a satisfactory loaf.

TYPHOO TEA.

(SUMNERS, LIMITED, 8, CASTLE-STREET, BIRMINGHAM.)

We are glad to find that this tea is not "chemicalised," for in our view tea that has been chemically treated is objectionable. Typhoo tea, it is stated, consists entirely of the fringe of the leaf, the inner parts, stalks, and stems being rejected. According to this leaf tips are obtained which, if not free from tannin, do not contain tannin of that rough description present in the centre and stem of the leaf. Our analysis, at any rate, shows that the tannin in typhoo tips is less than half of the amount contained in ordinary tea. More than this, the tannin present does not appear to be so astringent as does that extracted from the ordinary tea leaf. The result is that the infusion of tea made with typhoo tips is peculiarly soft to the palate and entirely free from roughness, yet the flavour is that of excellent tea and the stimulating alkaloid theine occurs in maximum amount Typhoo tips present the appearance of chopped-up leaves. It is not unlikely that this tea may be found suitable by persons with whom ordinary tea disagrees in some way or other.

GRAPHIC CLUB CIGARETTES.

(KAPLANS, LIMITED, 69, BUCKINGHAM-GATE, LONDON, S.W.)

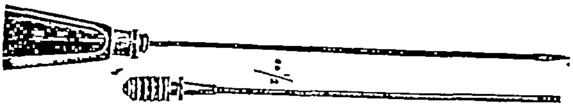
These cigarettes evidently consist of choice selected Dubec leaf. The smoke from them is somewhat full flavoured but free from acrid properties. The cigarette is well packed and free from dust.

WATER-SUPPLY OF BASINGSTOKE.—The new waterworks for the borough of Basingstoke have just been completed at a cost of nearly £20,000.

New Inventions.

A NEW TROCAR AND CANNULA FOR LUMBAR PUNCTURE.

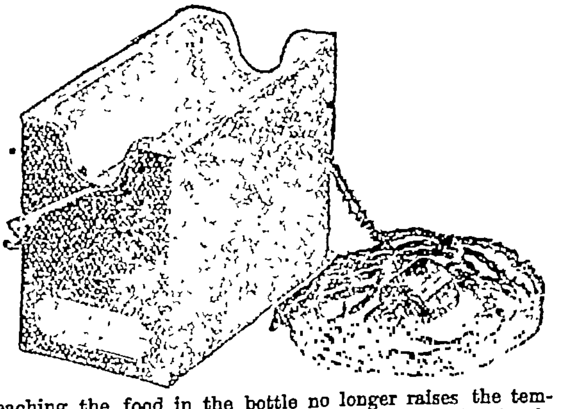
THIS instrument, which is represented in the accompanying illustration, is designed to simplify lumbar puncture and consists of a long trocar and cannula. The latter is made long so that the fluid may be easily led into a sterile vessel or culture tubes and is flexible so that no damage may be done if the patient moves. The use of the extension piece is to lengthen the cannula so that the point of the trocar is protected when being boiled or carried in a case. The instrument is made for me by Messrs. Maw, Son, and Sons, Aldersgate-street, London, E.C.



A. CARNARVON BROWN,
Great Northern Central Hospital, Holloway-road, N.

THE ELECTRIC HYGIENIC FOOD WARMER.

NOT a few will readily admit the troubles and inconvenience attendant upon keeping at hand a supply of suitably warmed food for infants' or invalids' use at all times through the day or through the night. The simple adaptation of the electric current for heating effects in the "hygienic food warmer" promises to reduce this trouble and inconvenience to a minimum. In this apparatus an electric incandescent lamp is employed, the resistance of which may be so adapted to any given main supply that the heat of the lamp will slowly bring milk or other liquid food to a definite temperature, say, between 100° and 110° F., and will maintain it there. The lamp is situated at the base of an open box. Immediately over the lamp is a perforated metal shelf on which the bottle, preferably of the hygienic type or boat-shaped, rests. With the right lamp, adapted that is for the voltage of the particular circuit, it is impossible to cook the food or to raise it above the temperature suitable for administration, and thus the warmed food is available at any hour. A point, of course, is attained when the heat reaching the food in the bottle no longer raises the temperature, the excess disappearing by radiation. The bottle may be protected by placing a cloth covering over it. The heat evolved should be sufficient to bring the temperature of the food to about 100° in three hours without a cover. With a cover or with a small quantity of liquid in the bottle the time will be shorter, but the use of a cover can readily be decided upon according as to whether the temperature at starting is high or low as in summer or winter. Practically the apparatus is automatic and does its work with little or no attention. A hook is attached at one end of the warmer on which a watch may be hung, a slit below allowing light to strike the face of the watch so that the time can easily be read. The adaptation of the electric current for this purpose is an excellent idea which should be very generally appreciated. It is stated that the cost of the electricity for the purpose of working the warmer is less than 1*d.* per day for continuous service. The model which we examined was submitted to us by Messrs. Reavell Bros. and Co., of Bondgate, Alnwick.



THE LANCET.

LONDON: SATURDAY, MAY 25, 1907.

The Plague in India.

TWO years ago when the Plague Commission was appointed to study some of the problems connected with plague we ventured to state that, though it was a step in the right direction and one of which we approved, the gravity of the situation demanded very much more. We held that administrative measures based on existing knowledge which the researches of the Plague Commission have since borne out and emphasised should at the same time have been organised and put into force. These views were later fully supported by a deputation of the Royal College of Physicians of London, headed by its President, Sir RICHARD DOUGLAS POWELL, which waited on the then Secretary of State for India in July, 1905. It was pointed out by this deputation that the calamity in India, in the proportions which it had already attained in 1905, was comparable to the most terrible pestilences recorded in history, not excepting the plague of 1348, often called the Black Death, which completely altered the social conditions of England and of other parts of Europe; and that the continuance of plague constituted a danger not only to the affected provinces in India but also to the rest of India and to the Empire. It was further pointed out that as the epidemic continued the social and economical disorganisation which followed former great epidemics of plague was likely to recur. The deputation left with the Secretary of State for India a memorandum on plague, setting forth these views and recommending the organisation of a specially trained sanitary service for India. It was recognised that some time must elapse before such a service could be fully at work, but Mr. MORLEY'S recent answer to Dr. V. H. RUTHERFORD'S question in the House of Commons must have come as a painful surprise to all those interested in the welfare of India and of the Empire. Mr. MORLEY announced that no scheme had yet been formulated. It is doubtful whether the Government of India has ever realised its grave responsibility in this matter of plague and it cannot be congratulated upon having awakened to it even now. It does not seem to have occurred to the Government of India or to the India Office that the ordinary routine in which it takes years for a proposal to be considered and to be adopted cannot apply to schemes against plague. During the time in which the Government of India is supposed to have been preparing an organised campaign against plague over a million people have died, many of whom, we believe, could well have been saved. It is not oriental procrastination or slow formulation of schemes but action that is required; not resolutions, of which there have been many, but money and machinery.

Perhaps, now, when there is so much unrest in India, which is doubtless due to several causes, political and otherwise, but not least among which are the pathological, social, and economical conditions arising from the annual devastations of plague, action will be taken and taken quickly. When people are dying in such immense numbers their relatives, friends, and compatriots are prone to think that any order of things other than that existing will be better for them, as it may give them relief from their sufferings and distress; they are not at such times in the mood or condition of mind to be very particular as to the manner in which they may exhibit their dissatisfaction and longing for change. The appalling state of things in India and the sufferings of our Indian fellow subjects are only faintly represented by the figures which Mr. MORLEY has given to the House of Commons. In January of this year there were 58,000 deaths from plague, in February there were 98,000, in March 171,000, and in April 314,000, making a total of 641,000 deaths for the first four months and a grand total of 5,326,000 deaths approximately since the plague began in 1896. The shudder that must have gone through the House on the announcement of these figures may be imagined, for not one of its Members, not even the most prosaic or unimaginative among them, could shut his mind's eye when the veil was lifted for a moment; all must have pictured the scenes in that distant country the inhabitants of which are dying in their thousands in the agonies of plague. And yet it is safe to say that few of the Members knew that plague existed in India in epidemic form in any unusual proportions. For ten years they have been hearing references to plague in India, and they have become like the public ready to regard the condition as normal and irremediable. The suggestion made two years ago that the India Office should publish regularly in the English public press the plague returns for India seems for some unexplained reason not to have been carried out for more than a few weeks in 1905. What motive has lain behind this alteration of policy?

We trust that now that the magnitude of the devastation is known no time will be lost in organising the special service recommended two years ago. It is obvious that a small service like the Indian Medical Service cannot cope with plague in India at its present dimensions. Those employed perform their duty with courage, skill, and devotion—indeed, with a blend of those qualities which should make us proud of the service; but if the whole of that service and also the whole of the Royal Army Medical Corps in India were detached from their civil and military duties and put on plague work they would be insufficient to deal with the present epidemic. A special service commensurate with the situation must be created to carry out inoculations and other plague measures. When that service is created and properly directed it is to be hoped that there will be an end to the policy which has discarded responsible medical advice since plague began and which has been so detrimental to the true interests of India. A special plague service will cost money, but it will be conceded that better use could not be made of a portion of the surpluses in the Indian revenue. For the past nine years there have been exceptionally large surpluses. Economy cannot be pleaded; motives of humanity insist that a vigorous attempt to deal with the appalling loss of life in

India should be forthwith set on foot; we do not attempt to speak with the exceptional knowledge of statesmen, but it seems to us that every thoughtful citizen will agree that motives of political expediency call as loudly as those of humanity for action.

The Control of Super-normal Arterial Pressure.

A valuable paper read before the Therapeutical Society on April 16th and published in The Lancet of May 18th by Dr. George Oliver on Some Notes on the Control of Super-normal Arterial Pressure affords an interesting example of the useful application of established physiological principles to secure a rational treatment of a persistently high blood pressure. Dr. Oliver has been a pioneer in the study of the blood pressure in man and his researches, together with those of many other observers, such as L. Hill, Riva Rocci, C. J. Martin, Clifford Allbutt, Janeway, and Erlanger, have definitely established the hæmomanometer as an instrument of precision, affording information which it is impossible to acquire by the *tactus eruditus* of the most educated finger. In one of the most evolved forms of the instrument, that of Erlanger, not only are the systolic and diastolic pressures shown but a graphic record is obtained which can be preserved permanently. But while an instrument of such complexity is only available for research in laboratories or in the clinical wards of a hospital the smaller and more portable forms are of great service in ordinary practice and are daily becoming more widely employed. Dr. Oliver's long experience of the method and the use which he has made of it to study the effects of treatment in the cases observed by him render his remarks of special interest and of unusual value, for he has made a special study of the effects of treatment directed to a specific object—the reduction of permanently raised blood pressure,—and shown his results in a form that admits of ready recognition—viz., the effects upon the actual pressure recorded. At the outset Dr. Oliver points out that a rise of blood pressure may be temporary or permanent, in the former case being produced usually through nervous influences, either psychical or reflex, while in the latter it is due to some alteration in chemical composition of the blood plasma or to some organic changes in the circulatory apparatus. Since with our present knowledge the discovery of the ultimate etiological factors in the genesis of high tension may be difficult or impossible, treatment has of necessity to be largely symptomatic—i.e., directed towards lowering the blood pressure by the various measures available where it is not possible adequately to combat the fundamental cause of the rise.

Diet in its relation to cases of super-normal pressure is first considered and since the origin of many cases is intimately associated with errors of diet continued over long periods, this forms a most important part of the treatment. Dr. Oliver enunciates the general principle that "we should reduce as much as possible not only the bulk of each meal but also the proportion of those constituents of the foodstuffs which more particularly stimulate the cardiovascular apparatus, such as various salts, soluble extractives, active principles, and other bodies—e.g., alcohol—which are directly absorbed without change and may be regarded as exogenous hormones between the digestive tract and circulatory apparatus, stimulating the heart on the one hand and the capillary circulation on the other." He recommends a reduction of the ordinary diet as a whole with a diminution in the animal and an increase in the vegetable food material. It is generally admitted that the supply of meats of all kinds should be limited. Dr. Oliver finds in addition that the manner of cooking is of more importance than the kind of meat taken; he recommends boiling instead of roasting or frying and excludes any substances likely to contain extractives, such as meat soups and gravies. With regard to fluids, the quantity taken at meals should be restricted to lessen the bulk of the material taken in, but they may be taken more freely when the stomach is empty, especially in the form of soft non-aerated waters; while it is wise to avoid hard water owing to the calcium which it contains. Tea and coffee in moderation are not banned unless their use is followed by dyspepsia or wakefulness. On the other hand, in the case of alcohol it is recommended that, although in slight cases small amounts may be permitted, yet as a general rule it is better avoided. The relation of sodium chloride to the diet of cases of super-normal pressure is carefully examined in the light of the views of Widal and Javal on "dechloridation"—viz., that in conditions of impaired renal permeability the retention of chlorides may lead to a retention of water with œdema and, albuminuria which can be relieved by dechloridation. Dr. Oliver is not prepared to recommend this procedure except as a temporary or experimental measure, since a saltless diet (which requires more than the mere omission of salt as a condiment) soon becomes distasteful to most patients. Some interesting observations on the effects of tobacco smoking upon arterial pressures are recorded, and since both in normal persons and in those with high arterial tension smoking produces a definite rise of systolic blood pressure it is undesirable for those with persistent high tension to indulge in that habit if they can be persuaded to avoid it. An interesting discussion of rest and exercise is given and the value of rest in the treatment of high-pressure cases is emphasised. It is pointed out that it is the best sedative of increased ventricular action, wherefore periods of absolute rest are enjoined, varying from a day once a week to three or four weeks at a time. On the other hand, moderate exercise, well within the limits of the patient's capacity, is doubtless of value in many cases, but here great care and judgment require to be employed; all violent exercise, all sudden exertion, and effort of any kind shortly after meals are to be avoided. Balneological treatment is regarded as of value but not to be relied upon as the sole means of treatment. Dr. Oliver recommends warm massage douching, such as the Aix-les-Bains douche, followed by the needle bath of alternating temperature and warm pack. He has also observed a beneficial effect with the D'Arsonval current applied for a few minutes daily, and certain French observers have recorded a persistent fall of pressure of as much as 60 millimetres of mercury from this treatment—a result which Dr. Oliver has not been able to confirm. The care of the skin is recommended so as to maintain the cutaneous circulation as effectively as possible, hence warm woollen clothing should be worn and warm climates visited, especially during the winter months, and an occasional Turkish bath with efficient massage may be taken. Venesection, apart from its employment in uræmia and cerebral hæmorrhage, is but little used in these cases and Dr. OLIVER asks whether it may not be used sometimes as a means of rapidly lowering pressure now that the hæmomanometer is able to afford the information enabling the right cases for the procedure to be selected.

Lastly, medicinal treatment is considered. This should be directed, on the one hand, to secure free evacuation and correction of the liver and bowels and to obtain gastro-intestinal antisepsis; and, on the other hand, to produce vascular dilatation and control of the vaso-motor apparatus. Some useful hints in regard to these various measures are given. The methods of giving purgatives are described and the use of various intestinal antiseptics is suggested, including benzo-naphthol, salol, salacetol, and tylmarin. The use of cardiac depressants is strongly and rightly deprecated but drugs varying the calibre of the arteries are recommended. Among such substances, thyroid extract has been found of value but it must be given with care and not as a routine treatment. It is interesting to find that the iodides which are so much used in the treatment of cases with high arterial pressure do not reduce those pressures. Dr. OLIVER has devoted some attention to the salts of the plasma and their relation to high pressure; he recommends the use, among other substances, of alkalies, the nitrate, nitrite, and carbonate of potassium, and also hippurates and benzoates of ammonium. He finds in general that cases vary considerably in their response to treatment and also points out that the high pressure may in certain instances be, in a sense, compensatory and therefore in such a case a necessary evil.

While there is nothing original about the treatment indicated by Dr. OLIVER his paper is a suggestive and useful one, because it sets forth the results of a careful examination of old remedies in the light of recent research, and in so doing it affords a useful guide in the employment of these drugs or measures and serves to emphasise the value of the hæmomanometer not only for purposes of diagnosis but also to gauge the results of treatment.

Meat and Tuberculosis—Some Reflections

THE mental digestion of the English people is generally regarded as being a somewhat slow but relatively sure process and at this moment the public mind is, as it were, ruminating over the last report of the Royal Commission on Tuberculosis, from which it must be inferred that the danger to the human subject from the ingestion of the tubercle bacillus of bovine type is a very real one. In THE LANCET of April 27th we dealt with what may be termed the human side of this great tuberculosis problem. We now propose to turn to other aspects of the question. Generally, the medical officer of health and the public are appreciating the fact that the last word upon the control of tuberculosis is not likely to be uttered while the discussion is limited to sanatoriums and sputum; indeed, there are some indications that possibly the evidence of the near future may suggest that the major danger may obtain in connexion with our milk supplies. Be this as it may, it is refreshing for the moment to turn from the injunction "*Ne crachez pas*" to some relatively new reflections if only because they raise points of very far-reaching influence and magnitude. Situated as we are in a small sea-girt island we are unable to feed our population of some 44,000,000 with home produce alone. Consequently, a very large amount of food which is capable of bringing with it the tubercle bacillus is borne, and will continue to be borne, to us across that silver streak which is at once our safeguard and our peril. From almost all parts of the habitable globe there converge towards our shores supplies of meat, of butter, and of cheese, all of which is, at least theoretically, capable of infecting us with tuberculosis. To cut off these supplies would mean starvation; to control them, in so far as tuberculosis is concerned, may prove difficult, more especially where foreign countries are in question. It is conceivable that in the case of our colonies some system of Imperial control might be devised but here we encroach upon the danger-line of politics and we will leave it to political organisations to paint pictures of a great non-tuberculous federation, fellowship with which shall mean the compulsory application of the tuberculin test to all cattle within its confines and the immediate destruction of all such as react.

Our object in this article is a less ambitious one and we must be content by the light of two reports which have recently been published, the one by Dr. W. COLLINGRIDGE, medical officer of health of the City of London, and the other by Dr. H. E. ARMSTRONG, medical officer of health of Newcastle, to deal with certain issues which are now pressing for serious consideration. Referring to the subject of the meat delivered in the Central Meat Market, Dr. COLLINGRIDGE points out that there is a decrease not only in the home-grown but also in the American meat killed in this country, these two sources of supply comprising some of the best meat. There is, however, so far as the Central Meat Market is concerned, an increase in dead meat from Australia and from North and South America, from which places, we are told, butchers who sell low-priced meats are mainly supplied. Dr. COLLINGRIDGE regards it as probable that this tendency will continue, as he thinks that the growing population of America will more and more absorb the finest produce of that continent. The Canadian supply, "though it can hardly be said that there has been improvement in its quality," is apparently increasing and the report before us expresses the opinion that before long the magnitude of the Canadian supply will render this country independent of the United States. In the meantime we are threatened with carcasses from Roumania and from Mexico and the diminution of home-grown meat passing through the Central Market brings the proportions of British and sea-borne meat as 1 to 4. As regards the quality of the United States beef Dr. COLLINGRIDGE speaks highly but he is evidently far less satisfied with much of the pork which reaches this country in a condition which renders inspection carried out on arrival almost valueless. The importation of Chilian and Argentine beef is greater than ever and any break in the supply disorganises the market. The supply of New Zealand beef is steady and that from Australia shows an increase. Pigs from Australia are, generally speaking, good but many of those from Argentina prove to be tuberculous. Now the meat coming from the Argentine Republic, Belgium, Denmark, Holland, New Zealand, and the United States of America bears labels indicating inspection before exportation and it appears that, owing to efforts made by the City Corporation, the quality of this inspection has recently undergone material improvement.

The question, however, arises as to what is the real value of this foreign inspection as compared with a rigid system in this country of inspection of the cattle both before and after slaughter in properly controlled abattoirs and it is probably with the object of bringing this point into prominence that the corporation has determined to abolish the private slaughter-houses at the markets under its control at Islington and to erect a public abattoir. Dr. COLLINGRIDGE advises that all meat slaughtered there and found to be wholesome shall be so marked as to be recognised and appreciated by the public and he thinks that this procedure would greatly promote the interests of the British agriculturist. Certainly the proposal is one which should meet with support on grounds of public health alone and the economic aspect of the scheme is accentuated by the fact that at the Central Meat Market the proportion of British country killed meat has fallen from 22·7 per cent. in 1903 to 17·2 per cent. in 1906, while that of British town killed has declined from 6·8 per cent. to 3·4 per cent. during the same period. In these circumstances it is obviously unscientific to adopt in regard to home produce severe restrictive measures while allowing foreign produce to obtain entry even although a label be attached indicating what may sometimes be little other than a perfunctory inspection, and Dr. COLLINGRIDGE is taking a wise course in limiting his recommendations to the practicable. But a moderate programme such as this will not, we gather, satisfy Dr. ARMSTRONG who has recently compiled a somewhat remarkable report upon the subject of tuberculosis. In his view bovine tuberculosis should be eliminated from all British cattle by means of the compulsory application of the tuberculin test, all reacting animals to be "forthwith sterilised and destroyed." With the German "Freibank," an institution wherein the carcasses of certain tuberculous cattle are rendered sterile and sold at a low price to the poor, Dr. ARMSTRONG will have nothing to do. The 22,758 tuberculous carcasses found in the abattoirs of Saxony, and 92·5 per cent. of which were passed as fit for food, should have all been destroyed as the "doctrine of tuberculosis at any stage being 'localised' is false and mischievous and should be utterly abolished." Dr. ARMSTRONG does not, however, deal adequately in this very comprehensive scheme of his with the vast supplies of meat which reach us annually from foreign countries and from our colonies but it is this point which should in our view be frankly faced by all those who profess seriously to consider the problem of tuberculosis. The element of practicability must not altogether be lost sight of and the proposal to place our home produce under all sorts of restrictions while admitting freely all foreign dead meat is not one which can be seriously put forward with the view to its adoption at the present time. The compulsory provision of public abattoirs, the increase of competent meat inspectors, and the closing of private slaughter-houses are much more likely to receive the support of the nation.

Annotations.

"Ne quid nimis."

MEDICAL OFFICERS AND THE WORKMEN'S COMPENSATION ACT.

THE Workmen's Compensation Act, which is to come into force on July 1st next, will, whatever else it may do, certainly provide employment for the legal profession. As regards our own more immediate interests we may consider the question of the position of medical officers of health, of medical officers under the Poor-law, and of resident medical officers in a hospital. The Local Government Board has issued a circular to various local authorities stating that "it appears to the Board that local authorities generally will be employers within the meaning of the Act," and that they may properly incur reasonable expenditure in effecting an insurance against their liability. If local authorities are employers what is a "workman"? The circular quotes from the Act as follows:—

> "Workman" does not include any person employed otherwise than by way of manual labour whose remuneration exceeds two hundred and fifty pounds a year, or a person whose employment is of a casual nature and who is employed otherwise than for the purposes of the employer's trade or business, or a member of a police force, or an out-worker, or a member of the employer's family dwelling in his house, but, save as aforesaid, means any person who has entered into or works under a contract of service or apprenticeship with an employer, whether by way of manual labour, clerical work, or otherwise, and whether the contract is expressed or implied, is oral or in writing.

As regards the salary limit it is certain that many members of the three classes to which we have referred come within it and it would therefore seem as if all of them would have the right of compensation under the Act for injuries incurred in the course of their employment; such, for instance, as an infected wound received during the making of a post-mortem examination, injuries inflicted by a lunatic patient, or an accident received while riding, driving, or travelling in or on any form of wheeled vehicle to visit patients. We have raised the point as it is undoubtedly an important one for the medical profession, but the wording of the Act appears to be capable of interpretation in so many different ways that only a judicial decision will be able to settle the many vexed questions which will assuredly arise. And this is the reason why we press upon all our readers the necessity of insuring against the risks of the new legislation. It is certain that an enormous amount of claims will be made under the Act, and those who are insured will be free from all legal responsibility. Many of the claims may not prove to be good ones, but the uninsured medical man must none the less spend money in disputing them. The scheme to which we have promised support, under which the Guardian Assurance Company, Limited, offers exceptionally favourable terms to those insuring through the Medical Insurance Committee, bids fair, we believe, to be a success, and we cannot give our readers better practical advice than that they should make application to the committee, care of the British Medical Association.

THE ADVANCING WAVE OF EDUCATION.

THE increasing interest shown by all classes of society in regard to education will have far-reaching consequences in our social history. The need for a wider knowledge of educational matters is showing itself in many ways, some of which we indicated in a recent leading article dealing with school hygiene, and the intimate connexion of the health of the people with their instruction was further illustrated at the Imperial Conference. Important meetings were held while the Imperial Conference was in session at the City Guildhall and at the Examination Hall of the Conjoint Board of the Royal Colleges, the object of the first being to consider education in relation to the Empire, and of the second to deal with the teaching of hygiene and temperance in the universities and schools of the Empire. Some echo of these proceedings must reach every part of the globe. At the Guildhall meeting Lord Milner emphasised the necessity for our youth to realise the greatness of their privilege in being potential citizens of every community over which the British flag flies, so that in going to, or in coming from, any of the colonies they were not going to or coming from a strange land but merely passing "from home to home." How far Lord Milner's ideal will become an actual fact depends largely upon the developments of medicine in the near future. The word "home" means something more than a place where the individual can live and work: it must for one thing mean a country where health is not at a premium. Unfortunately, there are still many places in our Empire where only the most robust can hope to withstand the unfriendliness of the climate. Medical science has already done much to render inhabitable parts of the world where the white man could not possibly find a home in the real sense of the word, but much more requires to be done in this direction and will be done if medicine receives adequate public support. At the meeting held in the Examination Hall, on the motion of Sir Lauder Brunton, a resolution was adopted to the effect that it was essential that a medical department should be instituted in the Board of Education, and no course could be better devised for bringing home to the mass of the people the debt owed by all to scientific medical service. How this is to be accomplished remains to be settled, but the association of medical science with the machinery of teaching must work for good. When the Second International Congress of School Hygiene has finished its labours in August next, it is to be hoped that the experience of educational authorities garnered from every part of the civilised world will point to the importance of associating medical science with the details of education. A practical outcome may be the result, for the country is expecting some movement along the right lines.

THE CHEMICALISED ROAD.

It has been freely stated that wherever a solution of calcium chloride has been sprinkled on the roads the result invariably has been success, for in spite of a busy motor traffic not only was there no dust raised immediately after application of the fluid but apparently the dust-preventive effect was permanent. This sounds like the consummation everybody must desire and the end of the great and exceedingly serious dust problem. We should like to think that such was really the case, for this nuisance is inflicting hardships on all sides, it is seriously damaging property, and it is a real menace to the health and well-being of the community. Ample proof that many minds are convinced of the efficacy of the calcium chloride treatment is seen in the fact that several of the authorities who are responsible for the good condition of the highways are entering into contracts for the supply of this salt. The time may soon come, therefore, when the roads throughout the country will be systematically and periodically dosed with solution of calcium chloride in order to prevent the colossal dust nuisance created by motor traffic. For one thing calcium chloride is cheap enough and the supply is not likely to run short, since it is a waste product of certain great technical operations. The *rationale* of the method is easy enough to understand; the road material sprinkled with calcium chloride solution is converted more or less into a permanently moist state on account of the hygroscopic property of the salt. It would be rash to assert that such a process is going to stand the test of time. We have yet to learn what effect such treatment is likely to have upon the road surface after weeks, months, or years of application. It will also be important to find out whether calcium chloride proves to be free from corrosive properties. Will it affect the foot of the horse, sheep, or oxen? Will it attack the rubber tyre? Will splashings containing calcium chloride corrode clothes, the skin, woodwork, and so on? Perhaps also some risk may be involved by inhaling a dust impregnated with an irritating salt. As is well known, a solution of calcium chloride practically acts as an acid and readily attacks iron and other metals, so that it is possible that the use of calcium chloride as a dust preventer on the roads may prove to be a remedy worse than the disease. A shower of rain, of course, is calculated to wash out the calcium chloride, so that the moment dry weather succeeds wet the application of the salt would have to be renewed. The idea of applying hygroscopic chemicals to the road is by no means new—it was tried many years ago in the simple shape of sea-water; but we believe that it was abandoned because the road after such treatment showed signs of irregularities and road engineers were strongly of opinion that the practice should be discontinued. Moreover, complaints arose that roads watered with sea water had an injurious action on the horses' feet and on the tyres and fittings of vehicles. It is to be feared that the calcium chloride method of treating roads for the prevention of dust will not turn out to be the simple solution which it seems. We should rejoice with the multitudes if we could feel any justification for taking the opposite view and see any prospect of the abatement of this great modern plague.

MELÆNA NEONATORUM.

In the present issue of THE LANCET Dr. J. Basil Page records a very interesting example of the rare condition known as melæna neonatorum. In this particular case the blood was vomited as well as passed in the motions, but the child ultimately recovered. More commonly the bleeding leads to a fatal issue and the mortality is a very high one, varying from 35 to as much as 50 or 60 per cent. The onset is usually within the first week of life and the child is often found to be jaundiced, as in Dr. Page's case. Numerous theories have been brought forward to account for this interesting condition. It has been attributed to the effect of traumatisms occurring during or after birth, but injuries to the newly-born child are not uncommon, while melæna neonatorum occurs but once or so in 500 or 600 infants. The fact that various forms of septic infection of the fœtus are often accompanied by a tendency to hæmorrhage has been supposed to point to a septic causation of these cases; unfortunately, as Ballantyne points out, the numerous varieties of organisms which have been described as present do not lend much weight to this view. One of the most interesting and ingenious theories is that which regards the cause as due to some disturbance in the normal readjustment of the circulation at birth. The fact that not infrequently ulcers are met with in the duodenum or stomach is regarded as further evidence. It is argued that small emboli are carried from a thrombus in the umbilical vein to some of the small arteries in the stomach or intestinal walls, where they produce local death of the tissues and the consequent formation of small ulcers. This view does not, however, explain the rarity of this form of melæna when we remember the frequency with which such vascular disturbances occur. Still another view is that the disease is due to some factor acting in the antenatal period of fœtal life. May it not possibly be a manifestation of hæmophilia or of purpura, or may it not be one of the many pathological conditions produced by the virus of congenital syphilis?

The multiplicity of theories reveals our real ignorance of this condition and we are therefore not in a position to take any measures to avoid its occurrence. Treatment is hardly possible when the hæmorrhage occurs in a newly-born child; however, the internal administration of one of the preparations of suprarenal extract might be tried or the hypodermic injection of a 2 per cent. solution of gelatine. The injection of 15 centimetres of such a solution, which had been boiled for six hours and allowed to cool to about 100° F., was followed by recovery in five consecutive cases in the hands of one observer.

THE MILK-SUPPLY OF THE CARDIFF INFIRMARY.

The secretary of the Cardiff Infirmary has forwarded us a copy of the tender for milk required from contractors by his committee, the clauses of which are of such praiseworthy severity as to guarantee a pure milk-supply to the infirmary. They deal with the cows, and the storage, transport, and quality of the milk. The cows are to be examined and certified healthy by a veterinary surgeon selected by the infirmary and are to be milked in a clean and dustless place after their udders and the hands of the milkers have been washed with soap and water. The milk is to be strained and cooled to at least 50° F. immediately and delivered at a temperature of not more than 52° in "churns" belonging to the infirmary which are always to be kept locked except for filling, emptying, and cleaning. The milk is to be delivered without delay, is not to contain any "preservative" or colouring matter, and must conform to the chemical standard of the Sale of Food and Drugs Act. The farm is to be open to inspection at any time by the representative of the infirmary and must be within 15 miles of that institution. Before the tender is accepted the sanitary adviser of the infirmary is to certify that the conditions laid down can be met by the contractor's arrangements and any breach of these conditions will at once terminate the contract. We are informed that "the form is in force with satisfactory results," and this excellent example might be with advantage widely followed

EXTENSIVE NERVE INJURY FROM REMOVAL OF CERVICAL GLANDS.

In the *Boston Medical and Surgical Journal* of May 2nd Dr. J. W. Courtney has called attention to a serious accident in removal of cervical glands—extensive nerve injury. In searching for glandular débris behind the sterno-mastoid the spinal accessory or cervical or brachial plexus may easily be injured with disastrous results Three cases are reported by Dr. Courtney. In the first case the patient was a man, aged 52 years, who was seen on Nov. 30th, 1906. On Sept. 1st some enlarged glands were removed from the right side of the neck in a hospital. On recovery from the operation he noticed that the right side of his neck drooped. After three weeks he resumed his occupation as a barman, suffering from pain in the right shoulder and side of the neck and weakness of the arm. On examination the shoulder drooped markedly and the muscles above and below the clavicle were atrophied. Along the inner border of the right sterno-mastoid was a scar three inches long, the result of the operation. The right sterno-mastoid muscle seemed to have disappeared. The right arm could not be raised from the body above an angle of 40°, but the deltoid did not seem particularly atrophied. The right pectoral muscle was markedly wasted. The left grip was 100; the right only 75 (the patient was right-handed). Electrical changes in the affected muscles were only quantitative and were in proportion to the degree of atrophy. Evidently the spinal accessory and cervical plexus were seriously injured and a secondary neuritis had been set up in the brachial plexus. In the second case the patient, a girl, aged 19 years, was seen on April 27th, 1904. Five years before glands were removed from the left side of the neck without untoward result. Eight months before glands were removed from the left side of the neck. On recovering from the anæsthetic she found that the left shoulder was very weak and that she could not raise the left arm at all. There was also considerable pain in the neck which prevented her from turning her head. After two weeks she tried to resume her occupation of stenographer but had to desist as the left hand was useless. Examination showed considerable atrophy of the left shoulder girdle. The scapula was everted and rotated forward. Electrical examination revealed quantitative diminution to faradism in the left trapezius. The other muscles appeared to react normally. The patient was not seen again until Feb. 17th, 1907, when the left side of the neck had lost its fulness and there were marked supra- and infra-clavicular depressions. The cervical border of the left trapezius was markedly thinned. The supra- and infra-spinatus muscles were slightly atrophied and the rhomboids more so, approximation of the scapula to the spine being seriously hampered. The affected muscles showed only quantitative loss to faradism. She had resumed her occupation but the left arm and shoulder soon became tired. In the third case a boy, aged 13 years, was seen on Oct. 24th, 1906. Five years previously glands were removed from the right side of the neck. After the operation his mother thought that he was growing round-shouldered. Examination showed marked shoulder-drop on the right side, supra- and infra-clavicular depressions, thinning of the cervical border of the trapezius, considerable wasting of the pectorals, some atrophy of the supra- and infra-spinatus, and eversion and forward rotation of the scapula. The right arm could be raised fairly to a right angle but beyond that with difficulty. All other movements of the arm and hand were weak. Movements of the head and neck were limited on the right side. The right scapula could not be approximated to the spine. The affected muscles showed varying degrees of quantitative loss to faradism. Four months' treatment by massage and electricity produced little benefit.

THE MEDICAL SERVICE OF THE NILE RESERVOIR WORKS.

Dr. J. Ferguson Lees, the senior medical officer of the great reservoir works which Messrs. John Aird and Co. are carrying out at Isna, has forwarded the report to his company dealing with the medical arrangements of the Isna Barrage. The provisions for employees suffering from accident or disease appear to be in every way worthy of the splendid engineering scheme with which they are connected; in January last, from which month this report is dated, the daily average of men employed on the works was 7843, of which number 88 were Europeans and 7755 were natives. A completely equipped hospital has been erected capable of accommodating 18 Europeans and 16 natives, the blocks for these being separate. The European wards are of three classes, capable of accommodating from one to four patients respectively, and there are two native wards for eight patients in each; an out-patient department with a branch building on the opposite bank of the river is included in the scheme. In various parts of the works tents have been erected as dressing stations, with first-aid appliances, and so complete is the equipment that during the summer months certain of these will be provided with baths and ice-boxes for the immediate treatment of cases of sunstroke. The description of the hospital buildings shows them to be well suited to the local conditions; a complete operating theatre has been provided, for which there is an evident need, as appears in the analysis of the cases treated. Dr. Lees reports that the fellaheen come in for treatment when suffering from accident far more readily than they do for sickness, as in the latter case they still have more confidence in the skill of the native barber than in the methods of European medicine. The subordinate staff of the hospital consists of a native head ward orderly, with five trained native orderlies who do the nursing, two cleaners, a cook, a gardener, and a laundry woman, the whole being under the charge of an English head attendant and storekeeper; when special nursing is required English nurses are obtained from Cairo. The report states that the bulk of the cases is formed by "injuries, ophthalmia, dysentery, and diarrhœa, with catarrhal affections of the respiratory system in the winter, and febrile conditions due to the heat in the summer months." The preventive work has been excellently organised; the best water- and food-supplies obtainable have been installed, the meat is inspected before and after slaughtering, and there is a laboratory for the analysis of other articles of diet. There is a plentiful supply of Berkefeld filters in the hospital. A system of moveable latrines and sewage trenches is under the control of a sanitary inspector and as a result of these careful precautions the medical officer is able to state that "the general health of the camp during the period covered by the report has been good." In the event of an outbreak of infectious disease it is proposed to erect mud shelters for treating cases, which can be destroyed when no longer needed.

THE COÖPERATION OF LOCAL SANITARY AUTHORITIES.

ON May 18th a meeting of representatives of certain county councils and urban sanitary authorities was held at Newcastle under the presidency of Alderman H. W. Newton, chairman of the sanitary committee of the Newcastle corporation. The meeting considered the report of Dr. H. E. Armstrong, medical officer of health to the corporation, on the problem of tuberculosis, and in the course of a valuable address on the urgency of meeting it efficiently the chairman brought forward a motion which embodied these proposals:—

> That in the opinion of this meeting it is desirable that a permanent union of the sanitary authorities of England and Wales be established as a supreme national health authority, with the object of safeguarding and promoting the public health interests of the people at large against tuberculosis and other dangers to the public health.

This motion was unanimously adopted by the meeting which then constituted itself a committee for the furtherance of this object with power to add to its numbers, and the chairman announced that the coöperation of all the sanitary authorities in the country would be invited in the interests of the scheme. We consider that this movement is on the right lines and we welcome its inception; it seems desirable that an organisation of sanitary authorities may be formed with a view to winning statutory recognition and of paving the way to the foundation of such a truly national health service as can alone face such gigantic problems as those presented by tuberculosis.

THE ETIOLOGY OF ACUTE PANCREATITIS.

THE etiology of acute pancreatitis is still a moot subject. Dr. A. Egdahl has contributed to the *Johns Hopkins Bulletin* for April an important paper consisting of an analysis of the reported cases in which the cause of the disease is stated or suggested. These amount to 105. The preponderating cause assigned is gall-stones which are supposed to act by causing obstruction to the flow of bile and its retro-injection into the pancreatic duct. Gall-stones were the assigned cause in 44 cases. The next most common cause was gastro-intestinal obstruction which was recorded in 32 cases. It is noteworthy that in 17 of these cases there was gastro-duodenitis due to alcohol or with a history of alcoholism. In two cases the pancreatitis followed an attack of appendicitis but the nature of the connexion cannot be stated. Two cases were associated with typhoid fever. In one a patient who had recovered from typhoid fever was seized with fatal pancreatitis. In the other case repeated inflammatory disturbances of the pancreas followed recovery from an attack of typhoid fever and typhoid bacilli were demonstrated in the bile. Pancreatitis is a rare but well-recognised metastasis of mumps—one to be expected when the similarity of the pancreas to the salivary glands is remembered. Of 652 cases of mumps treated at the hospital of Val-de-Grâce Simonin has reported that pancreatitis occurred in ten. One case each of pancreatitis has been attributed to boils, malaria, gastric ulcer, duodenal perforation, syphilis, and tuberculosis. Two cases have been attributed to embolism of which one was fatal. Three cases have been ascribed to trauma. The immediate cause of acute pancreatitis appears to be infection of the duct of Wirsung. The bacillus coli and other pyogenic organisms have been found in the pancreas. Mr. A. W. Mayo Robson thinks that in the cases of retro-injection of bile the inflammation is due to organisms carried in that fluid. In cases of injury to the pancreas a condition favourable to bacterial invasion is obviously produced. Infection may also occur through the blood stream.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: THE ORIGINAL NOTES OF JOHN HUNTER'S LECTURES.

THE recent presentation by Dr. Thomas James Walker of Peterborough to the Royal College of Surgeons of England of the *original notes of John Hunter's lectures*, taken by the latter's pupil Mr. Hopkinson, is an interesting addition to the College library. In a letter sent to the College with the volume Dr. Walker explains how the book came into his possession. He says: "A hundred years ago Mr. Hopkinson was carrying on the practice which, with Dr. Kirkwood and my son, I now conduct. Mr. Hopkinson was succeeded by Mr. Whitsed, who in 1819 sold the practice to my father, Thomas Walker. After introducing my father, Mr. Whitsed went to Edinburgh, took his M.D. degree, and for a time settled in London; afterwards he moved to Wisbech, where he practised as a physician and died in the early 'sixties.' After his death the book remained in the hands of his daughter for several years and by her it was given to me." At the commencement of the volume is an original letter from Mr. Clift, the conservator of the College, dated Sept. 16th, 1835, to Mr. Whitsed concerning the volume, and a cutting from the *Englishman* newspaper, dated Nov. 9th, 1836. These additions add greatly to the interest of the gift and are to be retained in the volume at the request of Dr. Walker. The cutting from the *Englishman* is a statement concerning John Hunter's papers and manuscripts and a reputed conversation—"on the road to Kew"—between Sir Everard Home and Mr. Clift regarding the manuscripts. As announced in THE LANCET last week, the presentation was made to the College by Dr. Walker in commemoration of the completion of the fiftieth year of his Membership of the College.

EPIDEMIC CEREBRO-SPINAL FEVER.

IN the districts where epidemic cerebro-spinal fever is prevalent the number of cases have shown no great change during the last seven or eight days. In Scotland during the week ended May 18th there were 23 deaths from this cause registered in Glasgow, 7 in Leith, 5 in Edinburgh, 2 in Dundee, and 2 in Paisley. In Glasgow the weekly report issued on May 17th showed that there were at that time 125 cases under treatment. It is announced that in Edinburgh during the month of April 43 cases were notified and 36 deaths occurred. In Belfast during the week ended

May 18th there were 21 deaths from this cause registered; in this city there has now been a total of 420 cases and 295 deaths, 43 cases remaining under treatment.

THE ESTIMATION OF SUGAR IN URINE BY MEANS OF CAUSTIC ALKALI.

IT is well known that when a solution of glucose is heated with a solution of caustic soda a yellow or brownish yellow colouration develops. Apparently the intensity of the colour is directly proportional to the amount of sugar present. This has suggested to Dr. Wladyslau Swiatecki of Warsaw the employment of caustic soda as a reagent for the estimation of sugar in urine. For this purpose he takes, according to a note which he has sent us, two glass tubes of the same dimensions and places in the one from five to ten cubic centimetres of a 1 per cent. solution of grape sugar in distilled water and in the second the same quantity of urine. To each are then added some drops of concentrated solution of lye (caustic soda) and the mixture then boiled for a few seconds over the flame of a gas or spirit lamp. After cooling, the boiled urine is filtered from the deposited phosphates. To the filtrate, the volume of which is noted, distilled water is added until the colour matches the sugar solution treated in the same way. The comparison is best made in daylight, the tubes being placed on white paper. From the difference between the quantity of urine before and after dilution it is easy to calculate the percentage of sugar. If, for instance, the quantity before dilution was equal to six cubic centimetres and after to 18 cubic centimetres the urine contains $\frac{18}{6} = 3$ per cent. of sugar. If, on the other hand, the urine is not so deep in colour as the standard solution of sugar the latter is diluted and the calculation made accordingly. Dr. Swiatecki admits some inaccuracies in the process, but states that with care the results are trustworthy. As he points out, normal urine is of a yellow colour and as the reaction of sugar with alkali leads to a yellowish colouration this would vitiate the result. He suggests, however, that diabetic urines are for the most part very pale and almost colourless. If that is not the case he takes the precaution of decolourising the urine by passing it through charcoal. Another source of error is that normal urine assumes a dark colour with caustic alkali owing to the occurrence of nucleo-albumins. These should be removed by lead acetate. The results, he states, are more or less accurate and compare favourably with other colorimetric processes or with Fehling's method or that in which the polarimeter is used. The method has the merit of simplicity, while it takes little time to perform.

STERILE PURIFORM MENINGEAL EFFUSION WITH INTACT POLYNUCLEAR CELLS.

AT the meeting of the Académie de Médecine of Paris on April 30th, M. F. Widal and M. A. Philibert pointed out that a puriform effusion is not, as is generally supposed, necessarily septic. In the great majority of cases a puriform appearance is evidence of microbial origin, but sometimes the fluid may remain sterile from its appearance until its absorption. The difference is important, because the prognosis of aseptic pus is much better than that of microbial pus. A cytological difference between these two kinds of pus has been found both in pleural and meningeal effusions. In microbial pus the polynuclear cells, damaged in their struggle against microbes and their toxins, present characteristic changes in their nucleus and protoplasm; in aseptic puriform effusions, on the other hand, the polynuclear cells are intact. In the following case of supposed cerebrospinal meningitis the integrity of the polynuclear cells enabled M. Widal and M. Philibert to pronounce the effusion to be aseptic and to give a good prognosis. A youth, aged 17 years, in good health, suffered from malaise, lassitude, and severe headache on Dec. 28th, 1906 (when influenza was prevalent in Paris). On the following day he was worse and had also sore-throat. On Jan. 3rd, 1907, he was admitted into hospital complaining principally of headache and persistent insomnia. The temperature was 102° F. and the pulse was 76 and regular. Kernig's sign was present and the knee-jerks were slightly exaggerated. On the 4th lumbar puncture was performed. The cerebro-spinal fluid was under high pressure, gushed out in a jet, and was puriform. The headache immediately disappeared. Cultures and inoculation of a white mouse yielded no results. Centrifugalisation showed 68 per cent. of polynuclears, 14 per cent. of large mononuclears, and 18 per cent. of lymphocytes. All the cells were in a remarkable state of preservation; the contour of the nuclei and of the cytoplasm was clear. On the following day the temperature had fallen to normal, Kernig's sign was absent, and the patient felt well. On the 7th lumbar puncture yielded fluid containing principally mononuclears (88 per cent., with 6 per cent. each of lymphocytes and polynuclears). On the 16th the patient left the hospital quite well. At first sight the symptoms and the turbid and puriform appearance of the cerebro-spinal fluid seemed to impose the diagnosis of cerebro-spinal meningitis; but the integrity of the polynuclears showed that the fluid was aseptic. Similar transitory puriform effusions have been found in syphilis of the nervous system. They are also induced when an aseptic solution of cocaine, which is not isotonic with the cerebro-spinal fluid, is injected for the purpose of producing spinal anæsthesia. They have been observed in cases in which a distant focus of infection has acted indirectly on, and by means of toxins produced irritation of, the meninges. In the active period of syphilis meningeal lymphocytosis is frequent, but spirochætæ have never been found in the cerebro-spinal fluid. M. Widal and M. Philibert suggest that in the case related above the meningitis was due to influenza.

THE medical officer of health of the Cape Colony in a bulletin dated April 29th states that a male native living in King William's Town who died suddenly on April 22nd was after post-mortem examination found to have died from plague, and a female native living at the same address, admitted to the Grey Hospital, died from plague on April 27th.

WE deeply regret to announce the death at Falmouth on Tuesday last of Sir Joseph Fayrer, one of the most eminent Anglo-Indians of the Victorian era, and for 20 years President of the Medical Board at the India Office. A full notice of his distinguished scientific and official career will appear in our columns next week.

AT the next meeting of the University College Medical Society on Wednesday, May 29th, Mr. W. Bateson, F.R.S., will read a paper on the Study of Heredity. The chair will be taken at 8.30 P.M. by Sir Victor Horsley, F.R.S.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—On May 30th, at 5.30 P.M., a general meeting of this society will be held at 20, Hanover-square, London, W., to be followed at 6 P.M. by an address to be delivered by Dr. Norman Moore entitled "Air, Water, and Situation." At 7.30 P.M. on the same evening the annual dinner, to be followed by an entertainment, will take place in the Balmoral Rooms, Trocadero Restaurant, Piccadilly, when Dr. Norman Moore and Mr. W. Arbuthnot Lane will be guests of the society. The charge for the dinner is *7s. 6d.*, exclusive of wine, and Fellows of the society intending to dine are requested to inform the honorary secretary, Dr. S. P. Sunderland, 11, Cavendish-place, London, W., as soon as possible.

SANITARY AUTHORITIES AND SANITARY OFFICERS: A CRITICISM OF THE PRESENT MODE OF ADMINISTERING THE PUBLIC HEALTH ACTS IN ENGLAND.

By J. H. GARRETT, M.D. DURH., D.P.H. CANTAB.,
BARRISTER-AT-LAW; MEDICAL OFFICER OF HEALTH OF CHELTENHAM.

THE popular leaning in England has been for long towards a preference for the management of local matters by local councils. The idea of entrusting the local population with the management of its own concerns is tinted with a roseate suggestion of a larger freedom, but appears to be based upon the somewhat fictional supposition that every local population contains in itself the elements for its own proper ruling, and that these ruling elements are always available and sure of recognition and selection by the votes of the local electors. This, however, is by no means the actual case, and a further source of weakness is found in the extreme proneness shown by the members of local councils to prefer their own individual interests, whenever possible, to those of the public, which they are ostensibly elected to serve. The sanitary laws are administered at the present time by these local elective councils—the city and borough councils, the urban district councils, and the rural district councils—and it is convenient to speak of these as the sanitary authorities of the districts which they have been severally elected to govern. Upon these local elective councils some restraining influence, especially as regards expenditure, is exercised by a department of the general Government—namely, the Local Government Board. The county councils have also a few public health powers and the parish councils a few of a minor sort, which last are but very little exercised. There is, however, a growing tendency on the part of rural district councils to shirk the responsibility and trouble of deciding questions as to the provision of sewers, water-supply, housing accommodation, or what not, in the villages of the district, and to refer them for settlement to the councils of the parishes to which they pertain, following the prevalent theory that the local community, however small, is the proper one to judge of its own needs and to decide the desirability, or otherwise, of carrying out such sanitary works as those specified.

The continued division of authority incidental to the decentralising process is in several ways disadvantageous, since it tends to disintegrate interests which are common to large communities. It also leads to a difficulty in raising funds necessary for carrying out such works as may be badly required and in supplying that expert scientific guidance so essential for the appreciation of simple sanitary requirements by uneducated rustics. The narrow minds of rural councillors are always unduly affected by consideration of expense and by that conservative policy of let-be which permits of the fool's paradise in which they are usually so content to dwell. The capacity in individuals of ruling the mass of the populace with good effect is not a common one, and the smaller the district the less likelihood of its containing men capable of becoming effective rulers. Thus we have not to go so far down the scale as to parish councils before the proofs of marked incapacity become all too apparent in the acts and omissions of our local rulers, and, indeed, it seems that there are now more councils than available men endowed with any noticeable capacity for acting the part of councillors. In answer to this allegation it may be urged that it is unfair to take the mental capacity exhibited upon the council as representative of the best in the locality, and it must be at once admitted that the occupation of taking part in the management of local affairs is not ardently sought in any locality by the men of best education and widest intelligence and experience. In the exercise of the local franchise the electors give very slight attention to the suitability or otherwise of the candidate. His character or want of character stands for little. In the towns, whenever there is a contest between candidates, the election is generally run on political party lines, and otherwise is affected by a busy personal canvass accompanied in too many instances by a petty-cash bribery of a certain part of the poorer voters. The result is that many of the most able men in the community hold themselves aloof, declining to undergo the ordeal of such an "election" or to be associated with the men who by such means come on to the council. There is, however, never a plethora of candidates of any sort, and a large proportion of the elections, especially in the rural districts, being uncontested, practically anyone possessed of a little audacity may rise to the honour of becoming a local governor and an administrator of the public health laws.

Contemplation of the fact that expenditures will be followed by increase of rates often creates an opposition to the carrying out of necessary works. The tax may have to be contributed to by many who gain no benefit by the expenditure, for although special rating areas are sometimes permitted to be made for the recovery of the expenses of works which only affect such areas, it is often nevertheless impossible to limit the payment to those who enjoy the advantage. So it happens that the members of councils themselves from being large landowners or land occupiers in country districts, or from having extensive shop or factory premises in towns, will be hit hard in the matter of the increase of rates which must result from the carrying out of works or improvements intended to be of benefit to the health of the general community or some special part of it. Such councillors commonly exhibit a conservatism towards any proposed scheme which will lead to this taxing of themselves, or their reservation of support not infrequently grows into a strong opposition. Appearances may sometimes require to be saved on account of the evident advantage of the proposed work to the greater part of the populace, and the opposition is then apt to become cunning and covert. Powerful outsiders whose interests are affected in a similar way to those of the property-owning councillors often exert influence upon their friends upon the council, and the opposition thus becomes so considerable and continuous as not infrequently to delay for many years the introduction of the required provisions or reforms.

But a greater obstruction than that occasioned by fear of having to pay for works done for other people's advantage arises amongst individuals and classes of individuals when in the course of bringing into operation the several sections of the public health laws, their particular interests become so affected as to result in money loss. It is very common for the provisions which are intended to result in the advantage of the many to prove adverse to the financial interests of the few. Thus, whether it be a matter of preventing the sale of food substances, meat, milk, &c., when in a state dangerous or unfit for consumption, or of dealing in a radical and expensive manner with defects in house properties, or of restricting traders in the nuisances caused by certain offensive businesses, or by interfering in the conditions attending the conduct of labour in workshops, all leading to expense or diminution of profits for the trader, manufacturer, or property owner, the people who are thus adversely affected will oppose themselves to the putting into force of such provisions to as great an extent as they can, and this they often do effectively, either by themselves getting elected upon the councils or by exerting such influence as they are able upon those who are elected. Thus no sooner is it proposed to abolish private slaughter-houses in favour of the use of a public abattoir (a matter which affects the interests of butchers in more ways than one) than a posse of butchers get themselves elected on to the council and when a crusade against some crying abuse connected with small house property or any other property is started the property owner is at once on the alert and comes on to the council probably along with several of his friends and dependents. The ability and powers of comprehension of the general run and ruck of the council are always so extremely mediocre that when an eloquent and determined man comes amongst them he is able to impress them with astonishing facility and when his principles are honest and sound he becomes the central motive force by which the council can be led to good public work. The dominating personality, however, which is thus capable of such strong leading effect is not invariably characterised by soundness of opinion or honest disinterestedness, and this is unfortunate, because it does not cease on that account to have the same leading effect upon inferior minds which seem incapable of making distinction between good and bad, but follow the strong man blindly, or at best with only a confused appreciation of why they follow him. Thus the person who comes on to the council with the intention of guarding private or class interests, if he has sufficient power of self-assertion, including some gift of speech, will invariably be able to occupy the position where his power can be made most effective. He is sure to be placed upon the committee which deals with the business in which he is particularly interested and will very likely become the chairman of that committee. His self-assertion is aided by the muddled state of the understanding of the weaker members of the council rather than by their logical intention. It is quite a common thing for a person whose private interest should cause his rigid exclusion from a committee which regulates that interest for public advantage to be specially invited to join the committee on the ground of his intimate knowledge of the business. The abuses that arise from the overwhelming representation of private interest upon the local council appear inseparable from our present system of managing local affairs, but in sanitary matters they are more often operative than in any other branch of local government.

In view of the fact that public health work is of a highly technical character, and on account of the ignorance in regard to the work which is to be expected on the part of the members of local councils, the law requires every council that is in the position of a sanitary authority to employ a medical officer of health. The medical officer of health is the only officer of a local council who must be of a definite professional standing. The law requires that he shall be a registered medical practitioner invariably, which means that he shall have gone through the ordinary course of medical education and have passed such examinations as qualify him to practise as a medical man in this country. Since the year 1891 a medical officer of health elected to a town or district which has a population of as many as 50,000 must have also an additional diploma in the special subjects embraced in that branch of his profession known as state medicine or public health, or in the alternative have held previous to the year 1892 a post as medical officer of health to a district with a population of not less than 20,000. Besides the medical officer of health the sanitary authority must engage the services of an inspector of nuisances or sanitary inspector, with a sufficient number of assistants. These act more or less under the instructions of the medical officer of health as the local council may direct. As a rule only half the salary of the medical officer of health and of the chief inspector of nuisances is paid by the local council, the other half being paid out of State funds through the county council by order of the Local Government Board, and the Local Government Board retains some right to a demand upon the services of the medical officer of health, directs him to send the Board copies of his chief reports, and sometimes calls upon him directly to make a report upon some subject affecting his locality. The Local Government Board also prescribes the general duties of the medical officer of health as well as those of the inspector of nuisances. Broadly, the duties of a medical officer of health consist in keeping himself fully informed of all the influences affecting the health of his district and in advising his council upon all the things requiring to be done to maintain and improve the public health. This requires him to keep a constant eye upon the conditions existing through inspections made by himself and through such information as he obtains from the reports of the sanitary inspectors. His duties also involve numerous specific executive and other works, whether connected with the management of cases of infectious disease and their treatment in the isolation hospital, the keeping of the vital statistics of the district and taking action in connexion with what he learns from the returns made to him by the registrar of births and deaths, the inspection of the food-supply with intent to seize any article of food unfit for consumption, the superintendence of the water-supply as to its quality and fitness for general use, the health of school children especially as to infectious conditions, the condition of dwelling-houses and the certification of houses unfit for habitation, filthy and unwholesome, infected or overcrowded, and numerous other matters of related nature. He carries out the instructions of his council which arise out of the advice he gives. It is rare for his council to be in a position to give him instructions which do not arise out of his own representations. The medical officer of health, however, only does all these things to their proper and full extent when he is giving his whole time to this special work—when, in fact, he is acting the part of a specialist. This, unfortunately, is not always the case. The districts, urban and rural, that are governed by councils who are sanitary authorities, each of which must employ a medical officer of health, are of varying size and importance. It is open to the councils of the smaller districts which are contiguous to one another to combine and elect a medical officer of health to serve the combination, but not a great many of such combinations have been formed and there are innumerable small separate sanitary districts each employing a local medical man to give whatever time he thinks fit in return for a small salary. He gives little time and little interest and, as a rule, possesses next to none of that expert knowledge possessed by the medical man who gives his life's time to this special work and has every item of it at his fingers' ends. Under these conditions the smaller local councils acting as sanitary authorities are at a great loss. The council is absolutely dependent upon the medical officer of health to advise and to lead it, and without him is helpless in dealing with any important matter affecting public health. In many of the smaller districts this officer rarely attends the meeting even to give its members the benefit of the little knowledge he has, and the reports of the sayings and doings of the council are often quite comic to anyone who understands the import of the business. But, generally speaking, for want of a leader and adviser to bring matters before the council, nothing is done from month to month and year to year. The appointment of inspector of nuisances in these districts is worse than that of medical officer of health, for the latter must be a medical practitioner and as such is bound to be an educated person, but the inspector may be anybody. He may be, and sometimes is, a shoemaker, an auctioneer, or an odd farm hand for whom one of the members of the council wants to find a job. The result is that public health work in many of the rural districts and smallest urban districts is little better than a broad farce and a waste of public money in the maintenance of a pure pretence.

In the larger towns and combined rural districts where the medical officer of health is a sanitary specialist, giving his whole professional time to the duties, and is seconded by a proper staff of trained inspectors and assistants, the vastly improved health conditions which have been effected and are being effected, speak eloquently for the utility of the sanitary officer when he is the real expert he needs to be. The residents of these towns which have an effective public health department located at the municipal offices, to the responsible head of which they can apply at any time as to a friendly expert for counsel upon health matters, or to have their complaints attended to, are beginning to appreciate the value of the convenience and advantage of living in such a town as compared to living in a town which is less well found in these respects.

The position of the public health officer is, however, at the best seldom entirely a pleasant and satisfactory one. It must be remembered that his action on behalf of the public is constantly opposed to the financial interests of one and another. On the council itself, in whose service he is supposed to act, there will often be sitting members against whose property and interests he is bound to take action if he does his duty honestly. The efficient medical officer of health looks over the heads of his council to the public beyond and considers himself to be serving the public rather than the council, and it is necessary for him to take this view.

In return for action by the sanitary officer taken on behalf of the public against private individuals the officer is inevitably treated to considerable personal dislike, and there is always a party scheming to get the active officer turned out of his post. The system which is commonly in force of engaging the medical officer of health and chief sanitary inspector for a limited period, which usually varies from one to three years, at the end of which re-election has to be sought, gives to the opponents of the officer and to those generally against whom he has had to take active measures a fine opportunity for ousting him from his office. It is a very rare thing for a medical officer of health to be directly discharged, because this cannot be done without a definite reason, but not to re-appoint a man requires no other reason than that there is another candidate for the post. This insecurity of tenure of office of the chief public health officers has a very baneful influence upon the assiduity with which they may be expected to carry out their duties. There is a tendency on the part of the officer to order his conduct so as not to offend the councillors or their friends and thus to avoid being turned out of his post. Independent action on the part of a medical officer of health can only be expected from a man who has been appointed without stated term, and who consequently has no fear of suffering personal injury by being turned out of his post without sufficient reason or by being superseded when only appointed for a term. The very mean treatment that is often dealt out by a council to its energetic public health officers is also a cause of slackening of effort on their part. Thus, as may well be supposed, the council, a portion of whose members are smarting under some action directed against their individual interests or the interests of their friends and relations, is not likely to view with unanimous favour an application for increase of staff or increase of salary on the part of the officer, and the shabby treatment to which the officer is often otherwise exposed at the hands of the council must have a depressing effect upon his activity and determination for good work in the public interest. Public health work depends upon the ability and will of the officers, but the behaviour of councils towards their public health officials often goes far towards destroying the goodwill and public spirit that are so essential, and it is to be feared that some of the weaker men have grown tired of the constant battle which is required of them and have quitted the arena of hard knocks for the ease and greater personal profit of subservient complaisance. Complaints often arise of the ineffectiveness for sanitary work of the local council; the foregoing remarks should in some part explain the cause of the deficiency. It is of very slight advantage for new laws to be passed or new sanitary by-laws to be forced upon local councils for their acceptance, whether in relation to that much-talked of question, "the housing of the working classes," or any other public health subject, whilst such causes of weakness remain in the local administration—at least, this is true of a very large proportion of the country where the provisions of both laws and by-laws are exclusively limited to those printed pages which lie in the proud possession of the local clerk upon some high and dusty shelf, a subject for study and understanding for no one, and with no likelihood of ever being put into active operation.

There remains to consider briefly what alterations the foregoing remarks suggest both in regard to the status of the sanitary authority and that of the sanitary officer. The strong report of the Select Committee on the Housing of the Working Classes Acts Amendment Bill, presided over by Sir John Dickson Poynder, which report was presented to the House of Commons and ordered to be printed in December last, must be considered to have brought to a head an important matter that has for long been the subject of desultory and indeterminate action. This committee sitting to inquire into the housing question appears soon to have discovered the hopelessness of any effective administration of a Housing Act by the existing rural district councils and the officers whom, in the capacity of sanitary authorities, they have appointed to serve them. Evidence was given before the committee, and any amount more of similar evidence could have been obtained, which utterly condemns the present sanitary administration in rural districts. The committee seems to have limited its inquiry to rural district councils, which amounts to an omission, as an inquiry into the mode of working of many urban councils would have resulted in a similar condemnation, and the question of rural housing is not unconnected, at least, with the smaller urban districts. The committee sums up the results of its labours in 13 recommendations, those that are more radical and more nearly connected with the subject of this paper being as follows: To transfer the administration of the Public Health and Housing of the Working Classes Acts from the rural district councils to the county councils. To impose upon county councils as a statutory duty the appointment of a medical officer of health, or medical officers of health, and a sufficient number of sanitary inspectors for the purpose of carrying the public health statutes into execution. Proper qualifications for these officers to be prescribed by the Local Government Board and insisted upon. Officers to devote their whole time to the duties of their office and to hold their appointments during good behaviour. The instructions of the Local Government Board to the medical officers of health as to their duties to be of a more specific character. Simplification and codification of the sanitary laws. Statutory right of complaint direct to the Local Government Board to be given to a local council, or any four householders, in case of default by the county council, and the Local Government Board to be given power to enforce its requirements by mandamus. Appointment by Local Government Board of a special housing and public health department with a staff of travelling sanitary and housing in- pervise the administration of the public health and housing laws by the county councils and their executive officers.

In considering in the light of an intimate knowledge of the matter these recommendations of the Select Committee a doubt arises in the mind as to the advisability of making the county council the local sanitary authority. Inasmuch as many of the same men who constitute the rural and smaller urban councils sit upon the county councils, and as one has experience of the county council having been worked in a similar way to the more local council for the benefit of private interests, it would appear as if the self-same disability attaches to the larger local council as to the smaller. In connexion with the public health powers which they already possess, it cannot be said that the county councils as a whole have in the least distinguished themselves during the period of their existence. The county council is often to a great extent dominated by one person and he not always of a character free from prejudices inimical to sanitary progress. The Select Committee seems partly to appreciate these facts, as evidenced by its recommendation for a statutory power of complaint over the head of the county council to the Local Government Board. Nor does the county council appeal to one as representing that distributive equality which is required. The counties vary immensely in size, population, and importance, and it would not be appropriate nor lead to equal and regular working to have the country divided into such extremely unequal sanitary divisions as is represented by the counties. If the recommendations of the Special Committee become law, unless specific provisions in the Act were made for dividing up and managing each county, great irregularities would be certain to result and England would be as far from a properly systematised sanitary administration as it is at the present time. It is not to the councils at this juncture that special attention needs to be directed so much as to the officers. The council may to some extent control and check the officer, but dependence has to be placed entirely upon the officer to bring in information and advice as to what is required, to show how required work can be carried out, and to see that it is carried out properly. The medical officer of health must be prepared to accept the responsibility of being an expert leader and he must be acknowledged as such. The local council is secondary. It can be organised at pleasure, so long as there is a superior and independent authority to whom the officers can appeal in all cases of delayed and doubtful conduct on the part of the local council. This superior authority must have power to get its own ruling carried out without delay.

The Select Committee's recommendation is too intricate. There are to be officers of the Local Government Board and officers of the county council responsible for the same work. This will lead to continual differences and quarrels. The local officer will consider himself in the best position to form an opinion, and indeed so he generally must be, and it is not likely that he will brook interference by a Local Government Board inspector whose qualifications are no higher than his own. The proposition to make the ruling of the Local Government Board effective by a mandamus obtained from the High Court of Justice is not sufficient, if the mandamus is to be in the usual form of an order to the local council to carry out the work required to be done. A county council can snap its fingers in the faces of the entire judiciary, for to commit to prison a whole county council for contempt, let the deed or neglect be what it may, is impracticable. The superior authority must itself have power to carry out the work if need be and to charge it to the source of revenue upon which it would ordinarily fall. The better plan would seem to be to divide the country up into sanitary districts of such convenient size and population as to permit of facility in their administration and to place over these districts local sanitary committees. Such committees might be formed from the existing district councils by combining where necessary a sufficient number of them together and allowing them to elect a representative sanitary committee. This system is so far already in operation in those cases where the present legal option to unite into a combination for appointing a medical officer of health has been taken advantage of by adjacent local councils, although these existing combinations cannot be taken as patterns of what is required because the component councils do not transfer their powers and responsibilities to the representative committee which is consequently of little use, and, as a matter of fact, rarely meets. But here comes the essential innovation; the local chief sanitary officers must be appointed by the Local Government Board and must report directly to the Local Government Board as well as to the local sanitary committee, which will now be the local sanitary authority. The only possible alternative is that the sanitary laws shall be administered—at all events, for the rural and smaller urban districts—by the Central Government Department itself. In either case the Central Department will require powers to carry out in local districts the works upon which they determine in some such manner as that above indicated. If this central department be the Local Government Board a great deal of extra work will be brought to an office that is already supercharged, and no doubt a subdepartment will require to be formed and to be well officered in accordance with the recommendation of Sir John Dickson Poynder's Select Committee, but the national importance of health matters would seem to indicate that ultimately a special Government department, perhaps bearing the title of the Department of Public Health, will require to be formed.

MEDICINE AND THE LAW.

Potters' Asthma.

AT Stoke recently a meeting was held of employers in the pottery industry to consider the effect which the recent Workmen's Compensation Act will have upon their trade should "potters' asthma" be included in the "accidents" for which the master is to be liable to compensate the workman. A proposition on the subject was carried unanimously that—

> The disability caused by the inhalation of clay dust among pottery workers has been steadily diminishing for many years, owing to improved workshop conditions and the provisions of the Factory Acts regulating the age at which work may be commenced, and it can no longer be regarded as a serious risk to the worker.

It was pointed out in support of this motion that the effect of the inclusion of the disease in the schedule of the Act would be to compel the employers to discharge all workmen whose physical condition might render them more likely than their stronger fellows to contract it, and it was in consequence of arguments such as these that the motion was carried and that the meeting declared itself in favour of the enforcement of preventive measures rather than of compensation. There is a good deal to be said in support of such a contention. The compelling of the employer to take all the precautions that science can reasonably suggest in order to make safe a manufacture in which thousands are employed is, on the face of it, more just than ordering him to pay what may be looked on as a heavy fine inflicted not on account of any default on his part but because a workman has neglected to protect himself, or has been allowed to work when he might more prudently have been discharged. The insurance companies will no doubt insist upon all workmen being got rid of who may be thought to be in any way liable to "accidents" for which compensation must be paid.

The Edalji Case.

The report of the committee appointed to consider the extraordinary case of Mr. Edalji (the epithet is the committee's own) has now been made public, together with the letter from the Home Secretary to Sir Arthur Wilson, the chairman of the committee, which sets out his decision based upon the committee's report and upon reasons which he gives in it. Neither can be described as an illuminating document, so far as the perpetration of the outrages of which Mr. Edalji was convicted are concerned. The identity of their author and his methods remain enveloped in mystery and we only know that after careful investigation the three gentlemen appointed to inquire as to the complicity of Edalji are of the opinion that "the conviction was unsatisfactory" and that "after a most careful consideration of all the facts and printed evidence" placed before them they "cannot agree with the verdict of the jury" so far as it found the prisoner guilty of the crime for which he was indicted. On the other hand, they cannot bring themselves to disagree with the finding at the point where they have to assume it to imply the jury's belief that Mr. Edalji wrote certain letters. The members of the committee are not prepared to say that these were not the work of the accused, but they consider that assuming him to have written them too much weight was attached to them as evidence of his guilt with regard to the crime of maiming animals. According to established practice there must be proof of innocence before there can be a Royal pardon, but the Home Secretary has decided to break through the customary restrictions in what he describes as a "very exceptional case, and to advise His Majesty, as an act of Royal clemency, to grant a free pardon," without, however, recc mending any compensation in respect of a conviction which it is considered that letters attributable to hims may have been responsible. If we pass from the questi of the letters to the other points dealt with in t report we find that to a large extent the conviction the late prisoner was based upon evidence of a scienti character, and equally that a great deal of the sympat with him and much of the distrust with regard to t accuracy of the jury's verdict have been due to medic opinions as to the bearing of certain defects in his eyesig upon his probable power to commit the acts alleged again him. With regard to the first of these matters the police Staffordshire, and with them those of other counties, hav we hope, received useful lessons in the course of the pr longed agitation which has followed this case and from th report of the committee. There was a jacket upon which medical witness found stains of mammalian blood and als hairs, which, it was suggested, were those of an anima which had been mutilated. There was also an allegation o hairs upon a razor. The presence of the hairs at the tim when the coat and razor were first taken possession of by th police was emphatically denied by witnesses for the prisone who had then seen them in the hands of the officers. It was therefore essential to establish that these *pièces de conviction* reached the scientific witnesses in precisely the condition in which they were discovered at the house of the accused. Clearly the proper course for the police on all such occasions when it is possible to do so, must be to inclose the objects taken in clean paper or other wrapping material, in the presence, if possible, of the accused or of his friends, to tie the parcel securely with string, and to seal the string. The analogy between such a proceeding and the taking of samples of food stuffs need hardly be dwelt upon. In such cases as that under discussion the expert witness would himself cut the string and would produce it in court with the seals intact should any question arise, such as those which were raised by the relatives of Mr. Edalji. This course would prevent accidental interference with the objects kept for examination and would render deliberate tampering with them difficult and improbable. With regard to the question of Mr. Edalji's eyesight, which has already been referred to in THE LANCET,[1] from the point of view of those who consider that his physical infirmity alone was demonstrative of his innocence, the committee's report is as follows:—

> In some of the communications addressed to the Home Office on Edalji's behalf much stress has been laid upon the condition of his eyesight, which, it has been said, was such as to make it impossible that he could have traversed the route suggested on a dark night. Whether the question of eyesight was brought before the jury at the trial we do not positively know, but we can find no indication that it was. If the prisoner's advisers had attached importance to it, it certainly would have been relied upon. We have carefully considered the report of the eminent expert who examined Edalji in prison and the opinions of oculists that have been laid before us, and the materials now collected appear to us entirely insufficient to establish the alleged impossibility.

We may therefore congratulate Mr. Edalji on the formal removal of the stigma of conviction with its attendant disqualifications for success in civil life and those associated with him in the effort to establish his innocence so far as their efforts have been rewarded with success. His case, however, can hardly be said to have been cleared up in a manner completely satisfactory and the authorship and mode of perpetration of the cruel deeds for which he has suffered penal servitude will have to remain, for the present at all events, among the unsolved mysteries of modern crime.

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[1] THE LANCET, Jan. 19th, 1907, p. 169.

WIMBLEDON COTTAGE HOSPITAL.—The thirty-seventh annual report of the Wimbledon Cottage Hospital shows a satisfactory financial condition for the past year, during which 182 patients were treated in the hospital at an average daily cost of 3*s.* 9*d.* per head. The report is largely concerned with the proposal to replace this and the South Wimbledon and Merton Cottage Hospital by one larger central building. Although this scheme has the support of the Metropolitan Sunday and Saturday Hospital Funds it appears that local opinion in Wimbledon is by no means unanimous in its favour and the hospital committee has appointed a subcommittee to report on this matter; until it is settled the disposition of a fund raised to commemorate the long and valuable services of the late Mr. Robert T. Poole Collyns as medical officer to the hospital must necessarily remain in abeyance.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary Circumstances and Administration of the Trowbridge Urban District, with special reference to the appointment of an Inspector of Nuisances, by Dr. R. J. REECE.[1]—The urban district of Trowbridge in Wiltshire has a population of about 12,000. Trowbridge is an important milk-distributing centre and a market town, and various industries are carried on there, the chief being pig-killing, bacon-curing, and cloth-weaving. Much of the town is old and closely built over, and Dr. Reece, in describing the housing conditions and the sanitary circumstances of the dwellings, points to many matters which require attention from the local authority; in particular there are mentioned the dilapidation of much of the poorer house property, the want of paving in backyards, and the dampness of walls. Closet accommodation is often insufficient and flushing tanks are rarely provided. Yard-gullies are frequently broken and have defective settings. The properties in question in most instances belong to small owners who cannot afford to do the necessary repairs or to non-resident landlords whose property is managed by agents. As the better class of the population move away to new houses in the suburbs the older dwellings, many of which are scarcely fit for human habitation, become occupied by a lower class of persons who are careless of their surroundings and ignorant of the rudiments of sanitation. In pointing out these and other insanitary conditions of Trowbridge Dr. Reece gives credit to the local authority and its officers for having carried out recent works of improvement in the town, notably the reconstruction of the sewerage system, and he mentions considerable advances which have been made during the past two or three years in dealing with insanitary property, supervising cowsheds and slaughter-houses, enforcing by-laws, and giving attention to food inspection. These advances have been made under the advice of the medical officer of health, Dr. J. Pearse, who was appointed five years ago, and were greatly facilitated by the appointment in 1904 of an energetic inspector of nuisances, who was required to give his whole time to the duties of the office. In June, 1906, however, the district council dismissed this inspector or, more strictly, declined to renew his yearly appointment on the ground that the work of inspector of nuisances could be sufficiently discharged by the assistant surveyor. Dr. Reece has no difficulty in showing that this is a retrograde step and that in Trowbridge the sanitary interests of the district require the whole time of an active and competent inspector. He adds that it is unfortunately necessary to consider the inspector's dismissal in the light of definite allegations which were made by the latter to the Local Government Board, these being to the effect that in the performance of his duties he had come into conflict with the private interests of several members of the council and had been interfered with by individual councillors in carrying out his duties. On reviewing the circumstances Dr. Reece concludes that the anticipation of saving expenditure has not been the sole factor instrumental in deciding that the inspector should be dispossessed of his office. It may be hoped that the inspector concerned, if he is still out of employment, will yet be able to derive some comfort from Dr. Reece's account of his work in Trowbridge.

On the General Sanitary Circumstances and Administration of the St. Neots and Eaton Socon Rural Districts, by Dr. R. DEANE SWEETING.[2]—In this report Dr. Sweeting gives a useful review of the sanitary circumstances of two large agricultural districts in Huntingdonshire. Special attention is paid to the condition of cottage property, local water-supplies and pollution of streams, and to the need for the supervision of slaughter-houses, cowsheds, and of new buildings generally. From the administrative side, perhaps the most notable part of the report is its reference to the arrangements made for carrying out the work of the medical officer of health. The position of a medical officer of health who has to be reappointed year by year is seldom satisfactory, and the drawbacks of such an arrangement are specially conspicuous where the medical officer gives his services under these conditions to several authorities and depends on his official work for a livelihood. In the present instance there has been for many years a single medical officer of health of the rural districts of St. Neots, Eaton Socon, Caxton, and Arrington, and of the St. Neots urban district. The council of each district renews the appointment every year and could at any time appoint a new officer without reference to the central authority. The contributions of the several districts together amount to £272 a year, of course without any provision for pension. The medical officer of health, who is not in practice, has no allowance for travelling over the wide area for which he is responsible. All the circumstances, in short, conspire to put difficulties in the way of any action by the medical officer of health which would conflict with the interests of members of his authorities or would necessitate frequent visits to portions of the districts which are far away from his home. These difficulties naturally do not diminish as the officer advances in years or with failure of his health. Dr. Sweeting has been careful to set out these considerations in criticising the sanitary administration of the districts which he has inspected. The report gives one more illustration of the need for legislation to enable satisfactory conditions of appointment and tenure of medical officers of health to be secured.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8671 births and 4630 deaths were registered during the week ending May 18th. The annual rate of mortality, which had continuously declined from 17·9 to 15·7 per 1000 in the six preceding weeks, further fell last week to 15·1 per 1000. During the first seven weeks of the current quarter the death-rate in these towns averaged 16·3 per 1000, the rate during the same period in London being 16·0. The lowest rates in the 76 towns last week were 8·4 in East Ham and in Leicester, 8·7 in Norwich, and 9·0 in Leyton; the rates in the other towns ranged upwards to 23·4 in Bolton, 23·6 in Gateshead, 23·7 in Rochdale, 24·0 in Merthyr Tydfil, and 24·1 in Middlesbrough. The 4630 deaths in the 76 towns showed a further decline of 186 from the numbers in recent weeks, and included 507 which were referred to the principal epidemic diseases, against 530 and 493 in the two previous weeks; of these, 212 resulted from measles, 144 from whooping-cough, 51 from diarrhœa, 41 from scarlet fever, 41 from diphtheria, 17 from "fever" (principally enteric), and one from small-pox. No death from any of these epidemic diseases was registered last week in Brighton, Norwich, Halifax, Stockport, Northampton, or in eight other smaller towns; the annual rate from these diseases, however, ranged upwards in the other towns to 3·6 in Rochdale, 4·3 in Sunderland, 6·3 in Bolton, and 7·8 in Hanley. The fatal cases of measles in the 76 towns, which had been 197 and 186 in the two preceding weeks, rose again last week to 212, the highest annual rates being 3·0 in Nottingham, 3·1 in Middlesbrough, 6·0 in Bolton, and 7·0 in Hanley. The 144 deaths from whooping-cough were 19 fewer than the number in the previous week; the greatest proportional mortality from this disease was recorded in Manchester, West Ham, Wigan, and Rochdale. "Fever" was proportionally most fatal in Rochdale, and diarrhœa in Sunderland, in Swansea, and in Wolverhampton; the deaths from scarlet fever and from diphtheria were not excessive in any of the 76 towns. There was one fatal case of small-pox in Southampton, but none in any other of the large towns; and no small-pox patients remained under treatment at the end of last week in the Metropolitan Asylums Hospitals. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2672 and 2658 at the end of the two preceding weeks, had risen again to 2678 at the end of last week; 363 new cases were admitted during the week, against 346 and 349 in the two previous weeks. The deaths referred to pneumonia and other diseases of the respiratory organs in London, which had declined from 412 to 262 in the six preceding weeks, further fell to 235 in the week under notice, but were 14 in excess of the corrected average number in the corresponding week of the five years 1902–06. The causes of 42, or 0·9 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Manchester, Leeds, West Ham, Bradford, Newcastle-on-Tyne, and in 49 other of the 76 towns; the proportion of uncertified deaths, however, again showed considerable excess in Liverpool, Birmingham, Sunderland, Gateshead, Stockton-on-Tees, and Merthyr Tydfil.

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[1] London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. No. 251. Price 4d.

[2] Ibid. No. 253. Price 4d.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·6, 19·9, and 19·3 per 1000 in the three previous weeks, rose again to 19·7 per 1000 in the week ending May 18th, and exceeded by 4·6 per 1000 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·0 in Perth and 16·3 in Edinburgh to 21·2 in Leith and 21·8 in Glasgow. The 685 deaths in the eight towns were 14 in excess of the number in the preceding week, and included 112 which were referred to the principal epidemic diseases, against 106 and 110 in the two previous weeks. These 112 deaths were equal to an annual rate of 3·2 per 1000, which exceeded by 1·5 per 1000 the rate from the principal epidemic diseases in the 76 English towns; they included 52 from whooping-cough, 41 from "fever," eight from measles, seven from diarrhœa, three from scarlet fever, and one from diphtheria, but not any from small-pox. The fatal cases of whooping-cough, which had been 52, 44, and 40 in the three preceding weeks, rose again last week to 52, of which 40 occurred in Glasgow, five in Edinburgh, three in Dundee, two in Aberdeen, and two in Paisley. The 41 deaths referred to "fever" exceeded by five the number in the previous week, and included 25 in Glasgow, seven in Leith, five in Edinburgh, two in Dundee, and two in Paisley; all these deaths, except two in Glasgow, were certified as from cerebro-spinal meningitis. The fatal cases of measles, which had been six and 12 in the two preceding weeks, declined again last week to eight, of which three occurred in Edinburgh, three in Leith, and two in Glasgow. Of the seven deaths from diarrhœa, two were registered in Glasgow, two in Edinburgh, and two in Dundee. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 127 and 107 in the two preceding weeks, were again 107 in the week under notice, and were 24 fewer than the number in the corresponding week of last year. The causes of 21, or 3·1 per cent., of the deaths registered in the eight towns during the week were not certified; in the 76 English towns the proportion of uncertified deaths did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 33·5, 26·4, and 24·0 per 1000 in the three preceding weeks, rose again to 26·7 in the week ending May 18th. During the first seven weeks of the current quarter the death-rate has averaged 27·5 per 1000; the rates during the same period did not exceed 16·0 in London and 17·9 in Edinburgh. The 200 deaths of Dublin residents registered during the week under notice exceeded by 20 the number in the previous week, and included seven which were referred to the principal epidemic diseases, against 29, 14, and 17 in the three preceding weeks; of these, four resulted from whooping-cough and one each from measles, diphtheria, and diarrhœa, but not any from small-pox, from scarlet fever, or from "fever." These seven deaths were equal to an annual rate of 0·9 per 1000, the rates during the same week from the principal epidemic diseases being 1·7 in London and 2·4 in Edinburgh. The fatal cases of whooping-cough, which had been 15, 10, and eight in the three preceding weeks, further declined to four in the week under notice. The 200 deaths from all causes included 30 of children under one year of age and 58 of persons aged upwards of 60 years; the deaths of infants showed a decline from the number in the preceding week, while those of elderly persons were in excess. One inquest case and two deaths from violence were registered; and 66, or 33 per cent., of the deaths occurred in public institutions. The causes of nine, or 4·5 per cent., of the deaths in Dublin last week were not certified; only one uncertified death was registered in London during the week, while in Edinburgh the percentage of such deaths was 4·6. The 158 deaths registered in Belfast during the week under notice included 21 which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

VITAL STATISTICS OF LONDON DURING APRIL, 1907.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·9 per 1000 of the population, estimated at 4,758,218 persons in the middle of the year; the rates in the three preceding months were 6·8, 6·8, and 6·6 per 1000 respectively. The lowest rates last month were recorded in Kensington, Chelsea, the City of Westminster, St. Marylebone, Holborn, and Lambeth; and the highest rates in Shoreditch, Bethnal Green, Bermondsey, Battersea, and Woolwich. Three cases of small-pox, belonging respectively to St. Marylebone, Hampstead, and the City of London, were notified last month; and one small-pox patient was under treatment in a hospital of the Metropolitan Asylums Board at the end of the month. The prevalence of scarlet fever showed a considerable excess over that recorded in other recent months; this disease was proportionally most prevalent in Shoreditch, Stepney, Southwark, Battersea, Deptford, Greenwich, and Woolwich. The Metropolitan Asylums hospitals contained 2586 scarlet fever patients at the end of April, against 3116, 2829, and 2614 at the end of the three preceding months; the weekly admissions averaged 332, against 299, 323, and 312 in the three preceding months. Diphtheria was rather less prevalent in April than in the three preceding months; the greatest proportional prevalence of this disease occurred in Fulham, the City of London, Poplar, Bermondsey, Wandsworth, Deptford, and Woolwich. There were 946 diphtheria patients in the Metropolitan Asylums hospitals at the end of last month, against 921, 916, and 1012 at the end of the three preceding months; the weekly admissions averaged 119, against 124, 126, and 136 in the three preceding months. The prevalence of enteric fever showed but little variation last month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hammersmith, the City of Westminster, Stoke Newington, Finsbury, the City of London, and Woolwich. The number of enteric fever patients under treatment in the Metropolitan Asylums hospitals, which had been 100, 103, and 93 at the end of the three preceding months, had further declined to 66 at the end of last month; the weekly admissions averaged 12, against 14, 16, and 13 in the three preceding months. The 16 cases of puerperal fever notified during the month included two belonging to Hackney, two to Lambeth, and two to Wandsworth. Of the 16 cases notified as cerebro-spinal fever two belonged to Shoreditch, two to Bethnal Green, two to Poplar, two to Lambeth, and one each to St. Marylebone, St. Pancras, Islington, Holborn, Stepney, Southwark, Bermondsey, and Battersea.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the four weeks ending April 27th the deaths of 5768 persons belonging to London were registered, equal to an annual rate of 15·8 per 1000; in the three preceding months the rates had been 19·9, 18·4, and 16·9 per 1000. The death-rates last month ranged from 10·6 in Woolwich, 12·3 in Hampstead, 12·6 in Lewisham, 12·8 in Wandsworth, 12·9 in the City of Westminster, and 13·1 in Stoke Newington to 19·9 in the City of London, 20·3 in Finsbury, 20·6 in Bermondsey, 20·8 in Bethnal Green, 22·2 in Holborn, and 24·7 in Shoreditch. The 5768 deaths from all causes in London last month included 594 that were attributed to the principal infectious diseases; of these, 194 resulted from measles, 39 from scarlet fever, 52 from diphtheria, 239 from whooping-cough, 16 from enteric fever, and 54 from diarrhœa. In addition to these 594 deaths one fatal case of cerebro-spinal fever belonging to Poplar was registered during the month. The lowest death-rates from the principal infectious diseases were recorded in the City of Westminster, Hampstead, Stoke Newington, Battersea, Lewisham, and Woolwich; and the highest rates in Chelsea, Holborn, Finsbury, Shoreditch,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1907.

(Specially compiled for THE LANCET.*)*

Cities and Boroughs.	Estimated population in the middle of 1907.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal fever.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhoea.	Total.	Annual rate per 1000 persons living.			
LONDON	4,758,218	3	1479	566	1	95	2	10	317	16	2510	6·9	—	194	39	52	239	—	16	—	54	594	1·6	5765	15·8	109
West Districts.																										
Paddington	149,009	—	47	8	—	2	—	—	3	—	60	5·2	—	2	3	1	8	—	1	—	6	21	1·8	163	14·2	165
Kensington	181,842	—	41	9	—	3	1	—	4	—	58	4·2	—	3	1	2	17	—	1	—	1	25	1·8	193	13·8	98
Hammersmith	122,337	—	30	16	—	6	—	1	7	—	60	6·4	—	15	—	1	2	—	2	—	—	20	2·1	172	18·3	163
Fulham	168,749	—	41	34	—	3	—	—	12	—	90	7·0	—	6	—	—	8	—	—	—	3	17	1·3	177	13·6	138
Chelsea	74,857	—	15	8	—	1	—	—	1	—	25	4·4	—	7	—	—	4	—	—	—	2	13	2·3	100	17·4	112
City of Westminster	172,219	—	28	11	—	7	—	1	13	—	60	4·5	—	—	2	—	4	—	1	—	1	8	0·6	170	12·8	95
North Districts.																										
St. Marylebone	127,718	1	24	8	—	3	—	1	10	1	48	4·9	—	1	1	1	8	—	—	—	1	12	1·2	176	18·0	62
Hampstead	91,137	1	17	12	—	1	—	—	7	—	38	5·4	—	2	1	—	1	—	—	—	1	5	0·7	86	12·3	71
St. Pancras	236,753	—	50	24	—	3	—	—	15	1	93	5·1	—	7	1	3	8	—	—	—	4	23	1·3	290	16·0	122
Islington	347,017	—	93	25	—	9	—	1	16	1	145	5·4	—	17	2	3	16	—	1	—	1	40	1·5	427	16·0	86
Stoke Newington	53,613	—	21	7	—	2	—	—	2	—	32	7·8	—	1	—	—	—	—	—	—	1	2	0·5	54	13·1	75
Hackney	232,993	—	72	34	—	4	—	2	20	—	132	7·4	—	6	2	1	10	—	—	—	3	22	1·2	256	14·3	98
Central Districts.																										
Holborn	55,134	—	9	5	—	—	—	—	2	1	17	4·0	—	—	1	1	9	—	—	—	—	11	2·6	94	22·2	82
Finsbury	96,732	—	21	7	—	4	—	—	9	—	41	5·5	—	7	—	2	12	—	—	—	4	25	3·4	151	20·3	100
City of London	20,310	1	4	4	—	3	—	—	1	—	13	8·3	—	—	—	1	1	—	—	—	—	2	1·3	31	19·9	100
East Districts.																										
Shoreditch	116,662	—	53	17	—	2	—	—	8	2	82	9·2	—	14	2	3	17	—	—	—	1	37	4·2	219	24·7	138
Bethnal Green	130,831	—	62	10	1	3	—	1	15	2	93	9·3	—	8	5	—	8	—	—	—	3	24	2·4	209	20·8	176
Stepney	308,923	—	121	41	—	6	—	1	39	1	208	8·8	—	8	3	9	7	—	4	—	9	40	1·7	405	17·1	90
Poplar	171,058	—	53	36	—	3	—	1	16	2	111	8·5	—	13	2	1	4	—	—	—	—	20	1·5	233	17·8	113
South Districts.																										
Southwark	209,781	—	90	23	—	6	—	1	22	1	143	8·9	—	9	1	2	17	—	2	—	3	34	2·1	307	19·1	138
Bermondsey	128,263	—	51	32	—	1	—	1	9	1	95	9·7	—	6	4	2	9	—	2	—	2	25	2·5	203	20·6	146
Lambeth	318,538	—	81	20	—	4	—	2	13	2	122	5·0	—	8	1	3	13	—	1	—	1	27	1·1	365	14·9	85
Battersea	181,736	—	91	29	—	4	—	—	10	1	135	9·7	—	—	2	3	8	—	—	—	1	14	1·0	188	13·5	108
Wandsworth	281,419	—	80	50	—	4	—	2	23	—	160	7·8	—	10	1	5	16	—	—	—	2	34	1·6	270	12·5	119
Camberwell	277,059	—	83	24	—	3	—	—	16	—	126	5·9	—	16	1	2	21	—	—	—	1	41	1·9	323	15·2	117
Deptford	110,510	—	47	19	—	2	1	—	7	—	76	8·9	—	9	2	1	5	—	—	—	1	18	2·0	135	16·1	102
Greenwich	107,222	—	45	17	—	1	—	—	5	—	68	8·3	—	13	—	3	2	—	—	—	—	18	2·2	112	13·6	78
Lewisham	152,532	—	42	24	—	1	—	1	9	—	77	6·6	—	1	1	—	4	—	—	—	1	7	0·6	148	12·6	71
Woolwich	129,330	—	64	23	—	5	—	—	6	—	98	9·9	—	5	—	2	—	—	1	—	1	9	0·9	105	10·6	71
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

Bethnal Green, Bermondsey, and Greenwich. The 194 deaths from measles were 70 fewer than the corrected average number in the corresponding periods of the five preceding years; among the various boroughs this disease was proportionally most fatal in Hammersmith, Chelsea, Shoreditch, Poplar, Deptford, and Greenwich. The 39 fatal cases of scarlet fever were slightly in excess of the corrected average number; the greatest proportional mortality from this disease occurred in Paddington, Holborn, Bethnal Green, Shoreditch, Bermondsey, and Deptford. The 52 deaths from diphtheria were 10 below the average for the corresponding weeks of the five preceding years; this disease was proportionally most fatal in Shoreditch, Stepney, Battersea, Wandsworth, and Greenwich. The 239 fatal cases of whooping-cough were 64 in excess of the corrected average number; the greatest proportional mortality from this disease was recorded in Kensington, Holborn, Finsbury, Shoreditch, and Southwark. The 16 deaths from enteric fever were slightly below the average; four of these deaths belonged to Stepney and two each to Hammersmith, Southwark, and Bermondsey. The 54 fatal cases of diarrhœa were eight fewer than the average; the highest death-rates from this disease were in Paddington, Finsbury, Bethnal Green, and Stepney. In conclusion, it may be stated that the aggregate mortality from the principal infectious diseases in London last month was nearly 11 per cent. below the average.

Infant mortality, measured by the proportion of deaths under one year of age to registered births, was equal to 109 per 1000. The lowest rates were recorded in St. Marylebone, Hampstead, Stoke Newington, Holborn, Greenwich, Lewisham, and Woolwich; and the highest rates in Paddington, Hammersmith, Fulham, Shoreditch, Bethnal Green, Southwark, and Bermondsey.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 23rd, 1829.

CASE OF ANEURISM BY ANASTOMOSIS, TREATED BY VACCINATION.

By THOMAS F. DOWNING, M.D.

March 6. John Reardon, eleven months old, afflicted with a large nævus maternus, situated over the mastoid process of the temporal bone, extending upwards and inwards, including a portion of the integuments covering the back part of the ear. The mother states, it presented at birth a red discolouration of the skin, that it gradually enlarged, changed to a purple hue, became elevated, discharged blood, and, for the last month, increased with wonderful rapidity, owing, as she supposed, to the applications of poultices and fomentations.

It was first my intention to have extirpated the tumour by ligature, but recollecting that the attention of the profession was drawn by Mr. Earle, of Bartholomew's, to its treatment by vaccination, and as no surgeon (at least to my knowledge) in this country, had adopted the remedy, and as this was a case favourable for experiment, I was determined to try its effects. I accordingly inserted vaccine matter in several points on the surface of the nævus. At my visit on the eighth day, I found the tumour had become circumscribed, surrounded by a red halo, and bearing all the distinct characters of a true vaccine pustule. On the fourteenth day the scab was thrown off, leaving the base of the tumour nearly destroyed; for some days much suppuration followed, but in the course of three weeks from the commencement of the suppurative process, healthy granulations took place, and a perfect cure was effected.

The advantages of introducing cow-pox into the system, at the same time that disease is eradicated from it, are the important effects resulting from this mode of practice; and it must be duly estimated, when put into contrast with the means which have hitherto been employed. When the profuse hæmorrhage which generally follows excision by the knife, the destruction of parts when caustic is attempted, the almost invariable want of success, when the vessels leading to the tumour have been tied, and the irritation and convulsions which frequently follow the use of the ligature, are all taken into consideration, it is to be hoped that the curative means employed by vaccination, will be entitled to favourable notice, and that its efficacy will ultimately supersede the necessity of having recourse to the above painful remedies.

Fermoy, County Cork, April 27, 1829.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: F. W. Parker to the *Commonwealth*, on recommissioning; and H. J. Hadden to the *Sapphire*, additional for the *Sapphire II.* Staff Surgeons: R. H. Mornement to the *Commonwealth*, on recommissioning; H. Spicer to the *London;* and H. J. Chater to the *Forte*, on recommissioning. Surgeons: A. McCloy to the *Mutine*, on commissioning; and W. F. Archibald to the *Goliath*.

The undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet (dated May 15th), viz.:—Samuel Henry Woods, Percy Temple Sutcliffe, John Percival Handel Greenhalgh, Llewelyn Arnold Baiss, Charles Rowley Nicholson, Edward Theodore Burton, Robert Hughes, George Maurice Oswald Richards, Nelson Joseph Roche, John Henry Jones, Augustus John Laurie, and Penry Garnons Williams.

ARMY MEDICAL RESERVE.

The undermentioned to be Lieutenants on probation (dated May 1st, 1907): Charles Vere Nicoll, John Findon Murphy, Samuel Kilpatrick Adams, and Murray Ross Taylor.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant Alexander MacKenzie to be Surgeon-Captain (dated Sept. 21st, 1906).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Banff: William Manson Fergusson to be Surgeon-Lieutenant (dated April 15th, 1907). 1st East Riding of Yorkshire: William Edwyn Falkingbridge Tinley to be Surgeon-Lieutenant (dated April 1st, 1907).

Rifle: 4th Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Surgeon-Lieutenant F. B. Jefferiss to be Surgeon-Captain (dated Jan. 11th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Scottish Command (Glasgow Companies): Lieutenant W. A. Burns to be Captain (dated May 1st, 1907).

DEATHS IN THE SERVICES.

Sir Joseph Fayrer, Bart., K.C.S.I., honorary physician and physician extraordinary to the King, on May 21st at his residence at Falmouth in his eighty-third year. He entered the Bengal Medical Service in 1850 and served in the Burmese War and throughout the Indian Mutiny and Defence of Lucknow. He was professor of the Medical College at Calcutta and subsequently President of the Medical Board at the India Office.

THE WHITSUN CAMPS AND MANŒUVRES AT SALISBURY PLAIN.

There has been a great muster of military forces this Whitsuntide on and about Salisbury Plain where the Volunteer corps, notably the Manchester Volunteer Infantry Brigade, have encamped in great force. The consolidated medical contingent from Manchester, some 550 strong, is composed of surgeons, compounders, and ambulance men. These manœuvres afford an opportunity also for the practical trial of new methods and appliances connected with the sanitary and medical services. With the establishment of the territorial army under Mr. Haldane's new scheme another organisation and order of things will soon be coming into operation. That Salisbury Plain has quite unusual advantages for military manœuvres and forms an ideal area as a big training ground for troops will be almost universally recognised. The troops under canvas have recently had a somewhat rough experience as far as weather conditions are concerned, what with the prevalence of a keen, cold wind and occasional showers of rain and hail, accompanied at night or early morning by slight frost. The camps have been inspected by many persons interested in all that concerns the army and army training—by Lord Roberts, who is staying with Sir Ian Hamilton, for example.

THE NAVY AND ARMY MALE NURSING COÖPERATION.

On June 3rd at 3.15 P.M. a meeting will be held at 10, Hill-street, Mayfair, the residence of Sir Richard and Lady Biddulph Martin, with the object of inaugurating a Navy and Army Male Nursing Association. The speakers will include Inspector-General Herbert M. Ellis, Director-General of the Royal Navy Medical Service; Surgeon-General Sir Alfred Keogh, Director-General of the Army Medical Service; Sir Richard Douglas Powell, Bart., President of the Royal College of Physicians of London; Mr. Henry Morris, President of the Royal College of Surgeons of England; and Sir Frederick Treves, Bart. The chief object of the association will be to enable first-class orderlies to find employment in civil nursing on leaving the Services; and, in addition, to provide a trustworthy nursing reserve for the country in time of war. Under a scheme which has been drawn up by Miss Ethel McCaul a sum of about £500 will be necessary to start the organisation which in 12 months would probably be self-supporting. Dr. C. M. H. Howell, 53, Queen Anne-street, W., is the honorary secretary.

INDIAN MEDICAL SERVICE AND CIVIL EMPLOYMENT.

Under instructions from the Secretary of State for India the Governor-General has issued an order to the effect that in future officers admitted to the Indian Medical Service will not be permitted to exercise choice of area for the purpose of civil employment but will be posted upon a consideration of all the circumstances, including, so far as possible, their own wishes, to one of the following civil areas: To Madras, including Madras and Burmah; to Bombay, including Bombay and Aden; to the Upper Provinces, including the United Provinces, Central Provinces, and the Punjab; to the Lower Provinces, including Bengal and Eastern Bengal and Assam. Though ordinarily employed within one of the above areas they will remain liable to employment elsewhere.

THE MANAGEMENT OF HOME MILITARY HOSPITALS IN TIME OF WAR.

After inspecting the St. John Ambulance Brigade camp at Stoneleigh Park, Warwickshire, on May 21st, Inspector-General Belgrave Ninnis, R.N., announced that the War Office had recently asked the St. John Ambulance Association whether in case of war that body could take charge of the military hospitals of the United Kingdom and Channel Islands. The association had expressed its willingness to undertake such duties. This arrangement would, of course, render the Royal Army Medical Corps free for service abroad.

ST. MARY'S HOSPITAL.—On May 18th the retirement of Dr. David B. Lees, the senior physician of St. Mary's Hospital, whose time-limit of service has recently expired, was made the occasion of an interesting little demonstration, in accordance with a custom which is now well-established. Dr. Lees was accompanied on his farewell round by a large number of St. Mary's men, including members of the staff and many of his former house physicians and clerks, as well as present students of the hospital. Dr. Lees taught on the cases in his beds with his accustomed lucidity and thoroughness and it happened that the material enabled him to recapitulate nearly all the points to which he has devoted much of his clinical energies both at St. Mary's Hospital and the Hospital for Sick Children, Great Ormond-street. The importance of accurately determining the size of the right heart, the value of leeching in treatment when it is enlarged, the importance of using very large doses of salicylates in acute rheumatism, and their control of its cardiac manifestations, the value of ice-bags in acute visceral inflammations, and the treatment of pulmonary tuberculosis by volatile antiseptic inhalations, all came under review. In a very happily expressed little speech at the end of the round in which he thanked his audience for their attendance he insisted on the importance of vigorous treatment founded on accurate diagnosis, and pointed out that the general practice of medicine is largely concerned in fighting the tubercle bacillus, the pneumococcus, and (he ventured to say) the rheumatococcus, and that these active diseases must be met by active measures. Dr. Lees then took farewell of his many friends present and was heartily cheered on leaving the hospital.

Correspondence.

"Audi alteram partem."

THE TEACHING OF COOKERY.

To the Editors of THE LANCET.

SIRS,—I am probably one of the oldest subscribers to THE LANCET and I have rarely been more interested in any of your articles than in reading the one on the teaching of cookery which appeared on April 20th. Although the teaching is very perfect in some towns and villages, and, as your article points out, very imperfect in others, a great advance has been made in obtaining a universal recognition of the importance of the subject. Nearly 47 years ago (October, 1860) in a report which I presented to the governors of the Preston Dispensary, after spending two years in visiting the houses of the poor, I asked the question could not a knowledge of cookery and housewifery be imparted at the school where the girl receives instruction in reading, writing, and arithmetic, and I hope that you will allow me to repeat the words in which I expressed my views.

> It is a very melancholy reflection that a great deal of the sickness and mortality which comes under our notice is owing to causes which might be removed. Anyone who has lived long in Preston cannot fail to be struck on taking a walk through the back parts of the town with the great improvements which have been made in the paving and draining of the streets, but on entering the dwellings of the poor his amazement will be still greater that, notwithstanding so much progress outside the houses, so little advancement has been made within them. The habitations of the bulk of our labouring poor and the nurseries of their children consist of dirty, ill-ventilated, and overcrowded rooms. As a class, too, the poor are quite ignorant of housewifery and cookery, and our wonder at this is diminished when we consider the way in which the wife of the working-man, who is the housekeeper and cook of the family, is brought up. At the age of eight years she begins to spend part of her day in the factory and the other part in a school. At 13 the whole of the day is occupied in the factory. At an early age she is married and in time has to undertake the cares and responsibilities of a family without having previously acquired any knowledge of housekeeping or cookery. Could not this knowledge upon which the comfort and welfare of so many depend be imparted at the school where the girl receives her instruction in reading, writing, and arithmetic? In the present day the education of the people is continually being insisted on and a net is spread to catch all classes. Why, then, should this most important branch of knowledge which has for its object the preservation of health and the prolongation of life be entirely neglected? The condition of the houses of the poor is also, I believe, one of the chief causes of intemperance, and what is a more prolific cause of disease than this? The poor workman returning home from his day's toil finds the atmosphere of his dwelling so polluted and his food so badly prepared that he hastens to the public-house, where everything is made attractive, to arouse himself by stimulants from the depression which domestic discomforts have produced in him. If the advocates of teetotalism would devote to the improvement of the houses of the poor more of the energy which they expend in preaching total abstinence their labours would probably be attended with even more satisfactory results than they at present accomplish. They seem to forget that the poor are constantly imbibing through their lungs and skin poisons almost as deadly as the alcohol which they so much cry down. By making the rules of health a part of the education of the working-classes the object in view might with a little perseverance be accomplished without having recourse to the invasion of the sanctity of private dwelling houses by inspectors of domestic nuisances. The late Sir Thomas Watson, in his admirable lectures on the "Principles and Practice of Physic," says: "On the outbreak of an epidemic of cholera the most stringent measures for the removal of acknowledged causes of disease would not be considered superfluous; why then should we wait for such a visitation before we commence our great work of sanitary reform? The cholera only makes its onslaught periodically, but the causes which have been alluded to are in daily and hourly operation, sowing the seeds of death, misery, and destruction all around us. Since the benefits to be derived from this reform are for the good of our common humanity, the work is one in which all parties may join; indeed, combination is absolutely necessary, for the removable causes of disease are only susceptible of extinction by the united efforts of the community."

I have no doubt that what I have said about the condition of the houses in the poorer parts of Preston is applicable to many other places. Your remarks on the value of food which is often thrown away recall an experience which I had a short time ago. I observed that at a moderately sized hotel a considerable quantity of bread, chicken, meat, and other food was left on the table and plates by visitors who evidently were unable to eat all that was placed before them. When I asked what became of this I was told that it was all thrown into a swill tub for pigs. I fortunately obtained permission to have it for a mission home for the children of depraved parents and I find that the bread is sufficient to feed 24 children during the latter half of the day without cutting into a loaf of fresh bread. There can be no doubt that the difficulty of feeding poor children would be materially lessened if the scraps of food which in many houses are thrown away as useless and worthless were utilised. I repeatedly mentioned to school inspectors and others the desirability of having female children instructed in housewifery and cookery, but it is only within the last few years that an earnest attempt has been made to give a systematic and practical training in these subjects. The full benefit of the teaching will not be realised until the Board of Education can see its way to make it compulsory for every female attending the elementary schools on reaching the age of 11 to receive efficient instruction in cookery and laundry work and at 12 in housewifery. I am afraid that the recent publication of the report of the alleged and inefficient teaching of domestic science will have a very deterrent effect on the minds of education committees who otherwise might be disposed to encourage and develop this instruction in the areas which they control. In conclusion, I cannot help expressing my regret that the report contains chiefly destructive criticism—a few glaring instances of inefficiency being quoted as types of the general work undertaken in this subject in certain districts, while very little or no commendation is given to the really good work which is most certainly attempted and accomplished in many parts of the country.

I am, Sirs, yours faithfully,
R. C. BROWN, M.B. Lond., M.R.C.P. Lond.,
Preston, May 4th, 1907. F.R.C.S. Eng.

THE STATUS LYMPHATICUS.

To the Editors of THE LANCET.

SIRS,—Dr. L. Vintras in your issue of May 11th revives the old doctrine of states, temperaments, or diatheses. No doubt the recognition of different types of constitution with tendencies to special diseases is helpful. Three at least of Galen's nine temperaments besides his *εὐκρασία* or balanced health held their place in the text-books at any rate until a generation ago. I think it was Sir William Gull who remarked that the subjects of particular diseases had a family likeness; certainly many observers have been able to guess a man's disorder from his aspect and manner. But the comparative neglect of temperament in later British medicine to which Dr. Vintras alludes is capable of some explanation. Is it not due in large part to improved pathology, which has shown the true nature of many disorders, and so removed them from the class of uncertain constitutional states? and, secondly, to an unwillingness to generalise on conditions of which the causes are unknown? It is felt that in attempting to define temperaments and diatheses we are apt to stray into the land of obscurity and of assumptions. What one generation describes as a temperament consistent with health is found by another to have a definite pathology. Yet this neglect may be carried too far.

With regard to the status lymphaticus it may be questioned whether various disorders and tendencies to disorder are not included under this heading. Dr. Vintras quotes Trousseau's use of the term "lymphatic diathesis" in his ninety-first lecture. But surely this is in another sense. He is dealing with the etiology of adenia (lymphadenoma), and uses the expression "lymphatic diathesis" to represent the unknown cause of the disease, not to connote a state or temperament. Moreover, he lays stress on generalised enlargement of the lymphatic glands, a feature which finds no place in Dr. Vintras's clinical picture of the status lymphaticus. This clinical picture, although not without distinction, seems to include a diversity of conditions sometimes amounting to paradox. Its subjects combine slowness of habit with high intelligence; they are shy, yet genial; listless, yet greatly interested; their pulses are slow, yet apt to remain above 100 for days and even weeks. Dr. Vintras does not mention blood pressure. There is a more restricted class of persons, with deficient capillary fulness, with unstable blood pressure most often lower than the average, with excitable hearts, with weak muscles, and with proneness to effusions in the skin and serous cavities. Such persons are pale and have often been subjected to the strain of rapid bodily growth. The lymphatic circulation is sluggish. Albuminuria occurring in a cyclic form is often present. Strong reasons have been advanced for ascribing the albuminuria to a blood condition, of which the outstanding feature is deficiency in the coagulating power of that fluid, and this kind of albuminuria has been called "hæmatogenous."[1] Deficient coagulability of the blood has also been found in other individuals of the class described in whom albuminuria was not present. I would suggest that blood conditions, which are taking an ever larger part in pathology, will be found at the root of the so-called lymphatic diathesis. Some experience, which I hope to record later, in testing the coagulation by Wright's method impresses me with the *fluid* character of the blood in lymphatic subjects.

I am, Sirs, yours faithfully,
Weymouth-street, W., May 14th, 1907. R. HINGSTON FOX.

PHARYNGO-KERATOSIS TREATED BY APPLICATIONS OF SALICYLIC ACID IN SULPHO-RICINATE OF SODA.

To the Editors of THE LANCET.

SIRS,—I am sorry to trespass again on the hospitality of your columns, but Dr. W. Jobson Horne's letter in THE LANCET of May 11th, p. 1316, obliges me to make this further intrusion. The facts of the case are extremely simple and the correctness of my deduction must be obvious to any unbiased reader. At a stage when the condition of the two tonsils was identical (previous interrupted treatment having proved so far unavailing) a solution of salicylic acid in sulpho-ricinate of soda was applied daily by the patient to the right one, with the result of producing a marked diminution in the size and consistency of the keratotic points on it, the other tonsil remaining as before, and acting therefore as what is known in physiological experiments as a "control." The logical deduction from the fact is that the application was the cause of the improvement, the requirements of an experiment having been fully met. Dr. Jobson Horne is one of the secretaries of the London Laryngological Society and it is he who is responsible for the omission of the clear statement of this all-important fact in the report of my case, sent by him in his official capacity to the medical papers, thereby depriving it of its main interest. For this omission on his part I have received from the President of the Society a letter expressing the regret of the council for the injustice done, doubtless without intention, to my unpretentious communication. I am, Sirs, yours faithfully,

May 18th, 1907. DUNDAS GRANT.

PS.—I may mention that the improvement was steady, although slow, and for some months there has been scarcely anything visible which could be recognised as pharyngo-keratosis, while now there is none at all.

A NEW METHOD OF PERCUSSION.

To the Editors of THE LANCET.

SIRS,—In the notes from Budapest in your issue of May 18th mention is made of "A New Method of Percussion." For several years I occasionally used this method of percussion and have demonstrated it in classes on physical examination and in the wards. I very rarely employ this method now for the reason that, in chest work especially, it does not so well afford that appreciation of resistance which is so valuable a part of the information to be obtained by the ordinary method of percussion. It is, however, a useful variation when it is desired to localise exactly a small area of deficient resonance, and Dr. Janos Plesch deserves credit for drawing the attention of the profession to a useful addition to the ordinary methods of physical examination.

I am, Sirs, yours faithfully,
Harley-street, W., May 20th, 1907. J. EDWARD SQUIRE.

THE COLONIAL OFFICE AND THE PAYMENT OF MEDICAL EVIDENCE AT CORONERS' INQUESTS.

To the Editors of THE LANCET.

SIRS,—I beg to forward you the inclosed which appears to convey the situation. I was desired to attend an inquest and denied a fee. After practising a great many years it is a fresh experience to be examined as I was and not paid

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[1] See a paper by the writer in THE LANCET, August 25th, 1906, p. 497.

The man was not even one of crew or passenger, but stevedore's man.—I am, Sirs, yours faithfully,

JAMES WAGHORN.

Singapore, April 24th, 1907.

[Copy.]

Colonial Secretary's Office,
Singapore, 8th January, 1907.

Sir,—I am directed to acknowledge the receipt of your letter of the 25th ultimo applying for a fee for your attendance at an inquest held by the coroner at Section 1, Tanjong Pagar Dock, on that date.

The coroner states that no formal inquest was held but that the proceedings consisted merely of an investigation on board the steamer, and the Government is advised that in the circumstances you are not entitled to the fee which is usually allowed in the case of medical practitioners who are called to give evidence at coroners' inquests.

I have the honour to be, Sir, your obedient servant,
E. L. Brockman,
For Colonial Secretary, Straits Settlements.

Dr. J. Waghorn, s.s. *Kut Sang*,
care of Messrs. Jardine, Matheson, and Co., Hong-Kong.

THE TREATMENT OF THE ROYAL NAVY MEDICAL SERVICE.

To the Editors of The Lancet.

Sirs,—By a Gazette published on May 14th the number of Greenwich Hospital pensions for fleet and staff surgeons R.N. was reduced to 13; two years ago there were 16, and at this rate of reduction there will soon be none at all; but nobody appears to protest against this spoliation, nobody seems to know and nobody seems to care. Again, with regard to honours the same thing is apparent—there is one C.B. on Active List, made in June, 1902, and since then none have been given to the department. As regards service ceremonial entertainments (certainly at Portsmouth) medical officers and their families are simply never invited—they are not recognised! This contemptuous indifference, increasing for several years past, went so far that two years ago the Sea Lords in the yacht *Enchantress* placed the senior medical officer at Portsmouth at the foot of the table, and though this was apologised for yet the spirit of the thing is very evident. Of course, the present feeling of the Admiralty is to do away with the medical department as far as possible and run the service with temporary medical officers afloat and civilian practitioners ashore; in fact the permanent medical officers are a disagreeable necessity and this in the face of all the good and zealous work that has been done by naval medical officers of recent years. It is pleasing to know that there are some signs of wear and tear on the patience and good will of the naval medical donkey, and he surely will be no better off till he bestirs *himself*, as he has had to do on former occasions. Will you, Sirs, aid us with your influence and permit one of them to

May 22nd, 1907. "Bray."

THE FOUNDATION OF QUEEN'S COLLEGE BIRMINGHAM.

To the Editors of The Lancet.

Sirs,—In the interesting paragraph from your Birmingham Correspondent on the above subject published in The Lancet of May 18th it is stated that a Royal Charter was granted to the institution in the year 1845. Although I know that other speakers and writers on the history of the College have stated the year as 1845 it seems to me, from the account published in The Lancet of July 29th, 1843, that the Charter must have been granted in 1843. That account, which was addressed to The Lancet by Mr. William Sands Cox, states that "Her Majesty has been graciously pleased to grant a Royal Charter of Incorporation to the School of Medicine and Surgery at Birmingham, with the privileges, immunities, rank, and title of the 'Queen's College, Birmingham.'" I am, Sirs, yours faithfully,

May 21st, 1907. W.

Royal Institution.—On Tuesday next (May 28th) at 3 o'clock Professor G H. F. Nuttall will deliver the first of two lectures at the Royal Institution on Malaria, Sleeping Sickness, Tick Fever, and Allied Diseases, and on Saturday, June 1st, Sir William White will begin a course of two lectures on the Contest between Guns and Armour. The Friday evening discourse on June 7th will be delivered by Professor Sir James Dewar on Studies in High Vacua and Helium at Low Temperatures.

THE BATTLE OF THE CLUBS.

The Struggle against the Coventry Dispensary.

(From our Special Commissioner.)

Coventry, May 20th.

The contest at Coventry has now reached the acutest stage and the battle of the clubs is being fought out to the bitter end. It is no longer a question of negotiations, of compromise, of attempts at conciliation. It is open, uncompromising war. Negotiations have been protracted for more than a year, concessions were made on both sides, indeed, the desire to avoid an open rupture has perhaps led each side to infer that the other side feared to fight. To the profession at large it must be a matter of great satisfaction to know that the staff of the Coventry Dispensary have at last fallen into line in the effort made throughout the country to reform the whole system of contract work. Ten years ago[1] I called on some members of the medical staff of the Coventry Provident Dispensary and they readily admitted the existence of many abuses, but it was not possible to persuade them that any results could be gained by resistance. Now, on the contrary, they have been so persuaded, and this is a telling demonstration of the better organisation of the profession. In 1897 they informed me that to their personal knowledge there were 15 medical practitioners at Birmingham ready to come to Coventry if invited by the dispensary. To-day the dispensary has thrown out such invitation broadcast and 21 applications have been made not from Birmingham but from all parts of the kingdom. Ten years ago the members of the dispensary staff argued that if they resigned they would lose the greater part of their income, that there was no sort of guarantee that the profession would really support them, and that there was no prospect of any sort of compensation. To-day they have resigned and in doing so run the risk of losing more than £2000 annually. Surely this is a remarkable change of attitude and it can only be explained by one single fact—namely, the better organisation of the profession. But this must not be allowed to remain an empty boast. The profession, now better organised, must prove that it is capable of effective action.

In view of such action I will leave the consideration of the history and development of the struggle aside for the time being, so as to deal at once with what, in the present emergency, must be done. First and foremost, all petty bickering and criticism and fault-finding must be set aside while the battle is proceeding. Certainly the members of the medical staff attached to the Coventry Provident Dispensary have laid themselves open to criticism on the part of the organised members of the profession who for many long years endeavoured to abate the abuses arising from contract work. The former, on their side, and now that they have joined in the struggle, doubtless also fancy that they have some cause to complain, and notably that more might be done for them by their new allies. All such weakening divisions within the ranks must be sternly kept in abeyance, at least till the struggle is over. Whatever may have been their timidity in the past the medical staff of the dispensary now realise that the position has changed. In the Coventry district there are 42 medical practitioners and one dentist who is a fully-qualified medical man. Of these 41 belong to the Coventry division of the British Medical Association and 11 are officers of the Coventry Public Medical Service which was started by the profession in opposition to the Coventry Provident Dispensary. In these circumstances the members of the medical staff of the latter institution who have resigned have nothing to fear from the practitioners of Coventry. The staff consisted of seven practitioners. Two out of the seven have not resigned; but there is no resentment felt against one of these two as he is over 80 years of age and could not at that age be expected to sacrifice the greater part of his income and to begin life anew. The other medical officer who has not resigned never made much from the dispensary as he had a comparatively small number of members on his books. Thus the strike may be said to have crippled the dispensary completely. Their only chance therefore rests on their ability to import medical officers from the outside. But in this regard what used to be a great advantage to the dispensary will prove of special disadvantage. It so happened that the medical staff comprised some of the best practitioners of Coventry, gentlemen who held high social positions and had among their private patients some of the best families of the neighbourhood. Now, this is a description which does not necessarily apply to the sort of practitioner likely to respond to the appeal of an institution which is condemned by the profession. If the Coventry Dispensary is as unlucky as several other clubs have been the members will feel the contrast all the more as they have been accustomed to a high class of medical attendant.

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[1] See The Lancet, June 12th (p. 1637) and 19th (p. 1709), 1897.

The Coventry Provident Dispensary has just appointed three outsiders. Two are stated as coming from London; the third has been in Coventry for a few weeks, has not called on anyone, and is unknown to the profession locally. It is more than probable that these three practitioners do not understand their position; and when they do they may probably follow the example of some of their predecessors by promptly resigning. Altogether, it appears there were 21 applicants, including a lady doctor. The latter, it was stated, was going to be appointed, but when she discovered what was the true situation she very properly and loyally adhered to the discipline established by the profession and withdrew her candidature. Now, of course, the first endeavour must be to make the three selected candidates understand the mistake which they have committed in accepting service under the Coventry Provident Dispensary. Of course, no medical practitioner will entertain any sort of relation with them and all will refuse to meet them in consultation. But in days gone by and when the profession was not so well organised consultants came down in similar circumstances from Birmingham and thus defeated the endeavours of the local consultants. To-day this is not likely to occur.

On May 10th the central division, Birmingham branch, of the British Medical Association was convoked to discuss the Coventry dispute. The meeting was largely attended; it is said to have been the most crowded meeting that this organisation has ever held and the following resolution was unanimously adopted:—

> That this division agrees to support the Coventry division in its resolution of April 3rd, 1906, in declaring that no member of the profession in the area of the division should associate himself with the Coventry Provident Dispensary so long as that institution is managed on lines fundamentally different from those laid down for provident dispensaries by the recommendations of the medico-political committee[2] and further declares that after June 24th next, in the event of the rules of management of the dispensary not being altered in a manner satisfactory to the Coventry division, no member of the profession in the area of this division shall meet in consultation or otherwise professionally recognise the members of the medical staff of the dispensary.

In view of this resolution it may be said with confidence that if the members of the Coventry Provident Dispensary have need of a second opinion no consultant either of Coventry or Birmingham will see them unless they dismiss the medical attendants appointed by the dispensary. But many of these possible patients are leaving the dispensary and following the medical officers who have resigned. This course must be encouraged by every means. When the three imported medical officers see how much they have set themselves up against their profession the probabilities are that they will reconsider their position and, in their turn, send in their resignations. But it would be well not to rely too much on this and if their sense of what is due to their own dignity and to their calling cannot be moved perhaps the fact that the members are falling away from the dispensary will affect them more. Thus the general public may ultimately decide the matter. It is, therefore, most urgent that the general public should be well informed as to the points at issue. The Coventry division of the British Medical Association might publish a manifesto to the general public pointing out that club practice such as that of the Coventry Dispensary must degrade the medical profession and thus injure the public at large. The health of the entire community depends to a considerable extent on the medical profession and therefore any sweating of medical men, any system entailing so much overwork as to prevent their studying and following the progress of medicine, must prove to the disadvantage of the patients. The whole of the arguments in so far as the welfare of the general public is concerned should be set forth so that the members of the Coventry Dispensary may be made to understand that their true interest is on the side of the profession and not on the side of an institution which is so organised as to bring about the sweating of its medical officers. It is impossible for any one medical officer to have 5000 or 6000 members on his books and to attend to them properly. This is just what has happened at Coventry and it is degrading to the profession and injurious to the public. The public unfortunately does not fully realise this aspect of the case and therefore information on the question must be spread broadcast. Not only must medical men be warned to keep away from the Coventry Provident Dispensary but the people, that is, the inhabitants of Coventry, must be shown that they must also keep away from this institution and support the organised medical profession, for the interests of the profession and of the public are, at least on this question, absolutely identical.

(To be continued.)

SOME EFFECTS OF THE EMPLOYERS' LIABILITY ACT.

(From a Correspondent.)

There is no question that the recent additions to the statutes governing employers' liabilities are already seriously affecting the earnings of the medical profession and will affect them even more when the whole body of domestic servants is brought under the protection of the Acts as they will be in July next. A few instances from the writer's own experience will act as illustration. He has for years attended the workmen in a large brewery when they have been injured at work; the employers have always paid for the attendance, but since the last Act they refuse to do so. Notice has been given to the writer that no medical attendance will be paid for now by a large landowner who for 20 years has always paid such fees for injured workpeople. An intimation has been given by the owner of a large country house that he will not in the future be responsible for medical attendance on injured servants; this gentleman has always shown the greatest liberality towards his employees when ill and a generosity not always accorded towards their medical attendants. Some years ago the writer was called in consultation on an outdoor servant of this household and operated for appendicitis on him. The master did not pay for attendance on outdoor servants, but spontaneously sent the operator a fee of 10 guineas which he had neither expected nor demanded. The other employers referred to above have been equally liberal in their treatment of sick workpeople.

These three concrete examples illustrate the spirit which the new Acts have introduced into the relations between rich and poor. And we may be sure that if liberal and generous employers assume a mental attitude so much at variance with their natural feelings of generosity a far more niggardly tone will be found general. And yet the emergencies will arise, the same frantic summons for surgical assistance will be made as is made now; the summons will be obeyed and the work will be done; in very few cases, however, will any response come to the account when sent in, and if any payment is made it will be on a very reduced scale. Neither the workman nor the domestic servant has been taught in the past to make any provision for accidents and they are certainly not going to begin to learn now. It is true that serious accidents seldom occur to domestic servants but they do occur sometimes and the necessary surgical attendance is often prolonged, owing to the relative frequency of neglected suppuration of the fingers and hands and of scalds and burns. Even if many householders avail themselves of the special policies offered by some insurance companies, which include the cost of medical attendance, such cost is strictly limited to £5, which will not be a remunerative fee for many accidents. I doubt, however, if many householders will effect these special policies; they will mostly insure at the cheapest rates.

It is hard that a profession which renders such large service to the poor without remuneration should have withdrawn from its earnings the willing contributions of the rich. This will undoubtedly be one of the effects of the new Act.

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[2] Special Supplement, Brit. Med. Jour., July 22nd, 1905.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Overlapping Hospitals.

THERE exists in Manchester an institution called the Manchester Eye and Ear Hospital. It was established in 1888 by the late Dr. D. McKeown at the private house he occupied, 25, John-street. So far as the writer is aware no other medical man had any association with it during his lifetime and his name appears in the Medical Directory of 1906 as the one and only honorary surgeon. There was, however, it appears a committee of non-medical gentlemen. It is not too much to say, however, that but little was known of the institution by the medical profession in Manchester and it was generally looked upon as the private venture of the honorary surgeon. Of course, the similarity of name with that of the Manchester Royal Eye Hospital and that of the Manchester Ear Hospital was very likely to cause confusion both to patients and benefactors. The Royal Eye Hospital was, before the new building in Oxford-road was opened, in John-street, almost opposite Dr. McKeown's house and hospital, and even now is used for the convenience of out-patients who are a long way from the new hospital in Oxford-road. The Manchester Ear Hospital is also close by at the bottom of the street. The annual meeting of the friends of the Eye and Ear Hospital was held the other week and the report gave a sketch of the history of the hospital. Dr. McKeown died in December last and as the accumulated funds, which then amounted to £2500, "had to be applied to the purpose for which they were given, the board of management decided that the work of the hospital should be continued with such modifications as would bring it into line with the other public charities of Manchester." Last year the report states that there were 3297 out-patients and 318 in-patients. The Dean of Manchester, in seconding the report, said the hospital was passing, he understood, from private to public administration and "was approaching in its history a stage in which the support of the friends of the charities of Manchester might well be readily given to it." If there were no other institution in Manchester dealing with the eye and ear this plea would be readily granted, but as Mr. P. W. Kessler, the chairman of the Royal Eye Hospital, said, if the scheme were carried out there would be a danger of overlapping. The Royal Eye Hospital had now 106 beds and about next April would have 160, providing, he considered, ample accommodation for the district for many years to come. There were also two large out-patient departments, one almost opposite 25, John-street. He felt that the ground was already covered, and in view of the present position of so many medical charities he deprecated competition. Mr. Skemp, the secretary of the Eye and Ear Hospital, justified its existence by the public use of the institution and by its solvency. As regards the former reason, any place where the words hospital or dispensary appeared would soon be flooded with patients, either of the needy class or of that large one willing to accept anything that can be got for nothing. Mr. T. H. Davies Colley made a similar protest to that of Mr. Kessler on behalf of the Manchester Ear Hospital, a near neighbour. It was stated that negotiations were in progress that would remove any possibility of friction. The chairman of the meeting, Sir William Stephens, said the door was open for negotiations, but the board of management did not wish to have its hands tied in any way. One gentleman made a statement not pleasant for the medical profession to hear—"that the new institution was being erected for the sake of certain medical men"; that there were not enough hospitals for all the excellent medical gentlemen of Manchester. One of the medical men present wished to reply to this statement, but the chairman said there was no necessity. The greater the number of these competing and, it may be said, opposing institutions, the greater the waste of money and work, and it is to be hoped that the two objects of the institution may be so adjusted as to lessen, not to increase, the competition, sometimes unseemly, between medical charities.

Rescue by a Medical Man.

All know the deeds of bravery unostentatiously done by medical men in their daily conflict with disease, but the incident recorded below, although extra-professional, is surely worthy of mention. As Dr. H. E. Huntly of Penwortham was cycling along Broadgate, Preston, he saw a little fellow of about five years old slip on the steep embankment of the Ribble and roll down into the river where it is six feet deep. The lad had sunk twice when Dr. Huntly sprang into the river and rescued him. The boy was unconscious but the doctor brought him round by artificial respiration. But for the passing at that moment of a man possessing both pluck and knowledge the boy would certainly have been drowned.

Tuberculous Milk.

In his report to the Manchester Hospitals Sub-Committee on the working of the Manchester milk clauses, the veterinary surgeon mentions an incident of some interest. A sample of milk taken outside the city, but presumably intended for the use of Manchester families, was found to contain tubercle bacilli. When he went to the farm from which it had come, the farmer at first refused to allow him to examine the cows, saying that he had an agreement with the milk dealer that none of his milk should be sold in Manchester and the dealer admitted this understanding. One of the cows had marked tuberculosis of the udder, probably of some months' duration. The local authorities are giving the case their attention. The incident shows that the farmers, at any rate some of them, do not like the Manchester scrutiny of the milk, but the compact with the dealer and its occasional violation also show "the necessity for increased stringency in the protection of our milk-supplies."

Rain in the Milk.

At Blackburn last week a farmer summoned for selling milk in which, according to an analyst's certificate, there was from 8 to 10½ per cent. of added water, offered a somewhat unusual defence. It was that the milk contained 3·26 per cent. of butter fat, which was 0·26 per cent. above the recognised standard; that immediately after milking it was brought out of the shippon and placed on an uncovered stock in the yard; and that on the morning in question it rained heavily and was on the stock an hour and a half. Since then the stock had been covered over, so it was now protected from the rain. It is not often that the heavens are called upon, at least so one thinks, to assist in the adulteration of milk. The magistrates seem, however, to have been half convinced, for they dismissed the case, though with costs.

Overcrowded Workhouse.

At a meeting of the Prestwich guardians held on May 15th the crowded state of the workhouse was considered, especially with regard to the condition of the imbecile and sane epileptics. There are now, it appears, 26 women and 16 men in the imbecile wards who are sane epileptics. This of course cannot be justified and it was eventually arranged by the board that a large number of the sane epileptics should be sent to the Langho colony.

May 21st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Meeting of the British Dental Association at Cardiff.

THE annual meeting of the British Dental Association was held at Cardiff on May 18th, 20th, and 21st. The President, Mr. J. C. Oliver, in his opening address, urged the importance of making a systematic examination of the teeth of school children. He stated that as a result of extensive observation it had been ascertained that among the school children of this country only about 3 per cent. had sound teeth, and he contrasted this condition with that found in connexion with a recent discovery near Cardiff of ancient British human remains where out of 30 skulls examined only three had teeth which displayed any signs of decay. The same subject was dealt with by Mr. W. Cass Grayston of Scarborough. He considered that a scheme for the examination of the teeth of school children which was compulsory would be more likely to succeed than one which was voluntary. But if compulsory it must be free. He was of opinion that one dentist devoting his whole time to the work could not look after more than 1500 children in one year and on the basis of an annual salary of £300 to a dentist this would mean a yearly expenditure for England and Wales of about £400,000 for the treatment of only one-third of the school children in the country. He suggested that if the State would not pay so large a sum it could be provided by a contribution from every school child of 1*d*. weekly. Mr. G. Cunningham said that in Cambridge the corporation had appointed a dental officer at a salary of £50 per annum to examine the teeth of all the children attending the public elementary schools. The duties of this gentleman did not include any treatment but financial assistance had been offered privately for the provision of attention in this direction. This question of the care of children's teeth is very appropriately discussed at Cardiff, for about five years ago Mr. J. Percy Oliver addressed a letter from the South Wales branch of the Dental Association to the Cardiff board of guardians, urging the necessity for a systematic examination of the teeth of the children under the care of the board. The reading of the letter was met by bursts of ironical laughter and after one member had remarked that the letter was of no importance it was decided to let it lie on the table. As a commentary upon this action of the board of guardians it is pleasing to be able to record the remarks of the Lord Mayor of Cardiff when he welcomed the Dental Association to the city last week. He spoke of the care of the teeth of school children as a matter of paramount importance and hoped that the time would soon come when the children attending the public elementary schools would be periodically examined and their teeth attended to by skilled dentists. Sooner or later, he said, the Government would have to take the matter up as one of national importance.

The Residences of Poor-Law Medical Officers.

The Cardiff board of guardians, at some of its meetings, has been discussing the residential qualifications of one of its district medical officers. The gentleman in question occupies a villa outside his district but also has a surgery which is within his district. At the meeting of the guardians held on May 11th, a letter from him was read repeating his former statement that he resided in his district. Several guardians took exception to this and, after some discussion, a subcommittee was appointed to consider the matter, the chairman pointing out that the question at issue was one of law as well as of fact, and that a man might have two houses.

Didworthy Sanatorium for Consumptives.

The fourth annual meeting of the subscribers to the Didworthy Sanatorium, Dartmoor, was held on May 15th. The medical report stated that 94 patients were treated during 1906 as compared with 66 in 1905. Since the opening of the sanatorium in 1903 there have been 247 patients admitted, and the results obtained by treatment have been very satisfactory. The committee in the report alludes in sympathetic terms to the death of the late medical superintendent (Mr. J. C. Fleming). The new wing of the building providing accommodation for 35 patients was opened last May and the total cost of the erection of the sanatorium up to the present has been £9532, or £240 per bed, which compares favourably with similar institutions. The financial statement was satisfactory and showed that Sir Massey Lopes has given another £500 for the endowment of the institution. The Earl of Mount Edgcumbe was elected President and Dr. R. Hogarth Clay was appointed chairman of the management committee.

Bristol Lunatic Asylum.

The annual report of the visiting committee of the Bristol Lunatic Asylum for 1906, which has just been issued, states that at the close of that year the institution contained 923 patients (422 males and 501 females). The Commissioners in Lunacy have approved of plans giving accommodation for 90 additional beds. The work will be commenced shortly as the male wards are overcrowded. The committee in concluding its report expresses its appreciation of the manner in which the medical superintendent (Dr. J. V. Blachford) and his staff have performed their duties during the past year.

May 21st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Scottish Volunteer Medical Officers.

THE Scottish Volunteer Medical Officers' Association held its annual dinner last week at St. Enoch Station Hotel, Glasgow. Colonel G. T. Beatson, C.B., V.D., presided, and amongst those present was Colonel T. M. Corker, R.A.M.C., principal medical officer of the Scottish Command. In his speech Colonel Beatson, after dealing with Mr. Haldane's army scheme in so far as it affected the Volunteer Force, went on to speak more especially of the Volunteer Medical Service. In his opinion the existing Volunteer Medical Service was not satisfactory and their association should devote its energy and influence to have it remedied. They should go forward in one united corps—the Royal Army Medical Corps (Volunteers). To it every medical officer should belong and should be attached to it on joining. Once qualified he should take up corps work or regimental work as he liked. Under every regimental surgeon there should be a fixed and recognised body of men for sanitary and ambulance duties alone. These men should be supernumerary to the regiment and capitation grant should be drawn separately for them. Further, every regiment should have its own ambulance equipment under its own medical officer. This medical officer might wear the uniform of his regiment if he liked, but he must have the corps uniform, and for it only should he get an allowance. It was in such matters that the usefulness of an association made itself felt. In replying to the toast of "Our Guests" at a later period of the evening Colonel Corker said that he did not think the Volunteers would really be swept away. He was prevented from saying much that he knew of Mr. Haldane's scheme, but he pledged himself to do all he could to improve the medical service of the army.

The Decrease of Cerebro-spinal Meningitis.

Dr. A. K. Chalmers, medical officer of health of Glasgow, reports that during the fortnight just ended there were 45 deaths from cerebro-spinal meningitis in Glasgow, a decrease of 14 as compared with the previous fortnight. In Edinburgh no fresh case has been reported this week, but there were 43 notifications and 36 deaths during April. A soldier from Perth Barracks, who was removed last week to the fever hospital at Friarton, died in that institution shortly after admission. Although sporadic cases are still occurring here and there in the country districts it really seems as if the epidemic were on the decrease.

Completion of Galashiels Consumptive Sanatorium.

The small-pox hospital at Galashiels, which has been fitted up as a sanatorium for the treatment of consumptive patients by private subscription, is now ready for occupation, and it is expected that five patients will be admitted this week. The situation and internal arrangements of the buildings are all that could be desired.

Electric Cooking and the Purity of the Air.

The electricity committee of the Glasgow corporation has decided to take two houses in the High-street corporation property for six months, at a rent of £9 each, for the purpose of conducting experiments regarding the effect on the atmosphere of the more general use in dwelling houses of gas-stoves for cooking purposes.

Public Health of Ross and Cromarty: Annual Report.

Dr. W. Bruce, medical officer of health of the county of Ross and Cromarty, has issued his annual report. The health of the county during 1906, judging by the death-rate, was better than it has been for the past two years. In 1904 the death-rate was 15·739 per 1000, in 1905 it was 16·297, while in 1906 it was 14·967. The insulo-rural rate for Scotland during the past year was 15·1. There is still some overcrowding on the mainland and some of the crofters' houses in the western and south-western districts are in a bad state, but otherwise there are no conditions dangerous to health on the mainland. In Lewis there are still much overcrowding and many black huts, while the water-supply, as a rule, is open to contamination and there is a deficiency in the means of coping with epidemic diseases. The tide of emigration, which seems to be setting in, will, to a certain extent, relieve the overcrowding. There is still much lack of knowledge among the general population as to the laws of health. While the schools on the east coast, with one or two exceptions, are in good sanitary order, it is otherwise on the west coast and in Lewis. The most clamant defects are the want of plenty of pure water and the filthy condition of the cloak-rooms and usual conveniences. A system of inspection of workshops is being inaugurated. By the munificent kindness of Colonel and Mrs. Stewart Mackenzie of Seaforth a sanatorium for pulmonary tuberculosis has been presented to Ross and Cromarty. This will consist in the first place of 12 beds and as the demands for admission grow larger that number will step by step increase. Dairies on the whole were found to be satisfactory. The population for the county this year is estimated at 63,138, showing the usual steady decline all over the county with the exception of the Lewis district where there is a small increase of 24. The birth-rate is almost constant. The deaths from infectious diseases of all kinds amount to 158, of which about five-sixths are contributed by tuberculous disease.

May 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Cerebro-spinal Fever in Belfast.

AT the weekly meeting of the public health committee held on May 16th it was reported that for the week ending May 11th 29 cases of "spotted" fever had been reported, that is, one less than in the previous week. Since the last meeting of the committee 22 cases of the disease had been notified, bringing the total number up to 420, while the total deaths were 295. As to the question of not permitting the friends of the patients to visit them in hospital, Dr. A. G. Robb, physician to Purdysburn Fever Hospital, wisely stated that to do so would only create a panic. He believed that nearly 1500 persons had visited the hospital to see patients and to remove the bodies of their dead friends. None of these visitors had contracted any disease from visiting the hospital. He considered that visitors to the hospital to see these cases under the existing regulations ran no risk of infection, but overalls were being provided for such visitors which it was hoped would allay the dread which they sometimes felt. With reference to the vaccine mentioned by Dr. M. H. Gordon the English Local Government Board wrote that the investigations of Dr. Gordon and Dr. T. J. Horder had not been completed and on these grounds the Board was not able to accede to the application of the committee.

Medical Benevolent Society of Ireland.

At the annual meeting of the Belfast branch of the above society held in the Medical Institute on May 17th (Professor J. A. Lindsay, the President, being in the chair) it was reported that the amount received from all sources had been for the past year £157 12*s.* 6*d.* Of the 200 medical men practising in Belfast 70 gave nothing, while from nearly 200 in the country districts only 46 responded. Dr. G. L. Fielden was appointed treasurer and secretary in place of Dr. R. Purdon, resigned.

Royal University of Ireland: Suggested New Regulations in Medicine.

The medical committee of the Royal University of Ireland having recently suggested certain changes in the medical curriculum, a meeting of the professors and lecturers at Queen's College, Belfast, as well as of the medical and surgical staff of the Royal Victoria Hospital was called together at Queen's College on May 16th to consider the matter. The feeling of the meeting was that it was unwise at present, in prospect of changes in Irish University education and also because the question is likely shortly to be discussed at the General Medical Council, to make any alterations; especially to enact that a minimum of six years should be compulsory for the medical course. Everyone feels that one of two things must soon happen: either a boy at school must study several subjects—chemistry, physics, zoology, and botany—and be examined on these when he enters college, so as to begin at once anatomy and physiology, or a six years' course—as occurs in the continental schools—will be absolutely necessary in medicine; but it is thought that the present time is inopportune to make such an experiment in Ireland. When the five years' course was arranged the idea was to give more time for the purely professional subjects which are to form the life-work of the average medical man, but unfortunately the preliminary subjects were enlarged and extended and the five years' course has really been of little help for the three final professional subjects—medicine, surgery, and midwifery. So far as medical students are concerned the non-professional scientific subjects are being less and less taught in their technical or practical bearing on medicine and surgery and more as pure sciences, and so the work of the average student is being over-burdened and less time is given for acquiring a practical knowledge of those subjects which will enable him to make his living. Many points in this new scheme are excellent and will probably be adopted in the future, but it would be wiser, it is thought by many, for nothing to be done until all the medical schools directly affiliated with the Royal University of Ireland have had time to discuss the proposed changes and to send their criticisms to the medical committee of the university.

The Belfast Health Commission.

The Belfast Health Commission adjourned on May 18th, the principal evidence during the week being that of Dr. H. O'Neill in reference to the public health committee and that of Dr. J. McCaw on infantile mortality. Neither witness was complimentary to the municipal efforts. Owing to the fixed engagements of some of the commissioners there will soon have to be a suspension of the sittings until July, so that it is hoped that at their next sitting they will finish the taking of evidence. The chairman truly said, "People might talk of the length of the inquiry, but if the report of the commission was to be of real value to Belfast it must be very full and complete."

Post-Graduate Classes at the Royal Victoria Hospital, Belfast.

A post-graduate course on similar lines to that which proved so successful last year will be held this year at the Royal Victoria Hospital from July 1st to July 14th. Mr. Andrew Fullerton, 30, University-road, Belfast, is the honorary secretary and from him any further information as to the details of the course can be obtained.

County Antrim Infirmary, Lisburn.

From the twenty-first annual report of the above institution it appears that during the past 12 months there were 376 intern and 454 extern patients. A sterilising chamber has been built for the operation room and a complete x ray installation has been presented to the infirmary, to be at the service of the medical men of Lisburn and the neighbourhood. The daily average of patients in the infirmary was 36·1 as compared with 33·7 during the previous year. The financial statement showed that the annual expenditure on each patient was £4 13*s.* for drugs and dressings and £10 17*s.* for food.

May 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Saliva of Syphilitic Patients.

M. Follet read a paper on this subject at the April meeting of the Biological Society. He had been impressed by the number of cases of contamination by the saliva of syphilitics of articles such as drinking glasses, glass blowers' pipes, gummed paper moistened with saliva and stuck on a wound, and mouth-pieces of musical instruments, and he had applied new staining methods, which he described, to identify the treponema pallidum (spirochæta pallida) in a large number of syphilitics. By this means from untreated cases with chancres several months old he had been able to count in some fields of the microscope the enormous number of from 200 to 300 spirilla; it is true that all the spiral forms did not represent treponema pallidum, but the number of spirilla which can be found in the saliva of certain syphilitics, even when they do not present mucous plaques, is very striking. As a control M. Follet examined the saliva of a number of healthy persons, and the few spiral forms that he occasionally found could not be confused with the treponema.

Chronic Appendicitis and Muco-membranous Entero-colitis.

At the Academy of Medicine on May 7th M. Richelot read a paper in which he maintained that intractable intestinal complaints, including muco-membranous entero-colitis, are often cured by the removal of an appendix which is slightly but chronically inflamed. In support of this theory he described ten cases in which appendicitis of a comparatively mild type was succeeded by muco-membranous enteritis and other abdominal troubles and in which all these complications cleared up after appendicectomy. M. Richelot also mentioned several other cases of patients who had for months and even years complained of intestinal troubles that could not be attributed to any definite cause, which he had seen cured by operation performed on very faint indications or as a last resort; he considered that these were undoubtedly due to a form of appendicitis that could not be recognised clinically.

A Case of Mixed Leprosy: Atoxyl in Large Doses.

M. Hallopeau and M. Bondet, at the French Society of Dermatology and Syphilology, described a case of leprosy which had seemed hopeless. The patient had suffered for a long time and presented very extensive anæsthesiæ, multiple nodules, and perforating sores; for some weeks ulcerative tuberculous lesions had been present on the side of the arch and velum of the palate, which threatened to destroy the uvula. Prolonged treatment by chaulmoogra oil had no effect. Considering the great analogy which is presented between syphilis and leprosy in their evolution and symptoms it seemed indicated to try on this patient the treatment by large doses of atoxyl, with which M. Salmon obtained such remarkable results—results which M. Hallopeau and M. Bondet have frequently been able to confirm.

Gunshot Wound of the Abdomen.

At a meeting of the Surgical Society held on May 15th M. Rochard read for M. Malartic of Toulon an account of the following case. A man had received a shot from a revolver in the abdomen. Signs of internal hæmorrhage were present and an immediate laparotomy was performed. Two perforations were found in the stomach and four in the intestines. These were sutured and in addition a wounded branch of the mesenteric artery was tied. The patient had also a fracture of the ninth rib, and following on this he developed pneumothorax and an empyema. On the fifteenth day M. Malartic opened this and despite his multiple injuries the patient recovered completely.

Menstrual Irregularities and Irido-kératitis.

The ocular troubles which sometimes accompany menstrual irregularities in women aged from 20 to 25 years have not as yet received sufficient attention. At the recent congress of the French Ophthalmological Society held on May 7th, M. Bouchard of Limoges said that in four cases of irido-keratitis in women with irregular menstruation he had observed that all the usual treatment was useless, but cleared up entirely when the menstrual functions became normal. The participation of the eye in numerous general disturbances of health is said to be due to the elimination of toxins by the fluids of the ocular globe.

May 22nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Prussian Army Medical Corps.

IN a recent number of the *Deutsche Medizinische Wochenschrift* Surgeon-General Werner gives an account of the progress which has been made in the organisation and the training of the Prussian Army Medical Corps. He states that there are at present 1716 army medical officers on the active list, as compared with 1261 in the year 1877, and that this increase is relatively much greater than the increase of the army in general. These figures do not include either (1) the Bavarian, Saxon, and Würtemberg portions of the German army, which have their own army medical corps, reproducing in every detail exactly the same organisation as the Prussian portion; or (2) the medical officers serving in the colonies with the colonial forces; or (3) the young medical men who pass their legal time of military service in the medical corps. The Army Medical Corps consists of the following officers:—One Generalstabsarzt (staff-surgeon-general and chief of the Army Medical Corps, having the rank of lieutenant-general); four Sanitäts-inspecteure (inspectors, having the rank of major-general, whose duty it is to inspect the medical service of several army corps and who in war time are the heads of the medical service of an army); 19 Generalaerzte (surgeons-general, having the rank of colonel and being the heads of the medical staff of an army corps); 38 Generaloberaerzte (divisional surgeons, having the rank of lieutenant-colonel and being the heads of the medical service of the divisions); 359 Oberstabsaerzte (surgeons, having the rank of major, most of whom are the chiefs of the medical service of regiments or hold similar appointments); 447 Stabsaerzte (staff-surgeons, having the rank of captain and acting as chief medical officers to battalions of infantry, &c.); and 347 Oberaerzte and 501 Assistenzaerzte (surgeons, having the rank respectively of senior lieutenant and lieutenant and holding various appointments chiefly as assistants to the medical officers of higher rank). The grades of inspector and divisional surgeon are comparatively new creations, dating back only a few years; recently also the army medical officers have to some extent been raised in relative rank. The strength of the corps prescribed by the Budget is much greater than the actual force, the vacancies being filled partly by medical men who pass their period of medical service in the army medical corps. A great improvement has been introduced by the establishing of post-graduate courses of four weeks' duration, which originally were held in Berlin but now are held in other university towns as well, so that every army medical officer on the active list is required to attend such a course every fourth year. Special courses have been arranged for the medical officers of the reserve. In addition to these courses and lectures army medical officers of special ability may hold appointments in civil institutions for two or three years, such civilian appointments being reserved to them whilst they continue to belong to the army. These appointments include assistantships at university clinics, important municipal and private hospitals, lunatic asylums, and hygienic and other institutions. The number of these appointments during last year was not less than 110. Since the year 1902 courts of honour have been constituted after the pattern of those existing for the other officers of the army.

Tuberculosis of the Vulva.

At a recent meeting of the Berlin Surgical Society Dr. Wolff described the case of a woman of 51 years of age, who had for the last six months suffered from an ulceration of the left labium. As the clinical symptoms were incompatible with cancer and syphilis the diagnosis of a tuberculous ulcer was made and this opinion was confirmed when the diseased tissues were examined microscopically after removal. The patient had previously suffered from tuberculous inflammation of tendinous sheaths and on a bacteriological examination of the sputum being made the presence of pulmonary tuberculosis was ascertained. Dr. Wolff considered that the ulcer of the vulva was produced by an embolus. Cases of this kind were very rare and it was remarkable that vulvar tuberculosis had a decided tendency to be confined to the vulva without ascending to the uterus, tubes, and ovaries.

Enlargement of the Hypophysis Cerebri.

In the Verein für Innere Medicin Dr. Schuster recently showed a case of Enlargement of the Hypophysis. The patient, who was a man, 33 years of age, had complained of headache and amblyopia, which finally led to almost complete amaurosis. Quite lately he observed that his hands had increased in size so that his gloves no longer fitted and that his nose had become larger. On examination the patient's skin was found to be very pale and dry, and its condition resembled that seen in myxœdema. The nose, the hands, and the fingers were slightly enlarged, but the jaw and the tongue were of normal size. The left eye diverged outwards and its reaction to light as well as the power of accommodation were almost lost. Both optic nerves were atrophied. The right angle of the mouth was less moveable than the left one; a slight tremor of the tongue was present. The mobility and sensibility of the skin and the reflexes were normal; the testicles were atrophied and sexual power was lost altogether.

May 20th.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

The Physiological Action of Digitalis and Strophanthus.

Dr. Carl Tigerstedt at Helsingfors has carried out some interesting investigations into the effect of digitalis and strophanthus on the circulation. Though experimenters such as Bradford, Phillips, and Brunton have done much to elucidate the question it is as yet undecided whether the increase in the blood pressure produced by injection of digitalin, &c., into the circulating blood is due to an augmentation of the heart beat or to a contraction of the peripheral vessels or perhaps to both of these factors. Dr. Tigerstedt has now made an attempt to attain a definite result by means of the introduction into the ascending aorta of a "stromuhr" to estimate the volume of blood expelled by the heart in the course of a second. The determining of this volume, of the blood pressure, and of the frequency of the pulse before and after injection of the substances in question has led him to state that the increase in arterial tension caused by digitalis and strophanthus is chiefly due to a contraction of the peripheral vessels. The part played by the augmented output per second of the heart is considerably less important and is generally to be found only during the period immediately subsequent to the injection before the pressure has reached its maximum.

A Case of Impaction of a Foreign Body in the Bronchus.

At a recent meeting of the Gothenburg Medical Society Dr. Kruse reported a case of a foreign body in the right bronchus of a boy, seven years of age. Shortly after the aspiration a little ecchymosis was detected by the laryngoscope on the anterior wall of the trachea from 1 to 1·5 centimetres below the glottis. Examination by means of the x rays showed the foreign body, a metallic pencil case, on the right side of the sternum, with its upper end level with the sternal insertion of the fifth to sixth rib. The interest of the case lies in the fact that the *vis medicatrix naturæ* alone brought the case to a successful issue, as the patient on the next day was seized with a severe coughing fit, during which the foreign body, which measured 2·5 by 1 by 0·4 centimetres, was expelled.

The Bactericidal Properties of Tears.

Dr. C. Lindahl has examined the bactericidal powers of tears and found them very pronounced to staphylococci and streptococci, but not, as a rule, to pneumococci. The bactericidal effect is not due to the inorganic components of the fluid, but partly to the leucocytes and, it would seem, partly also to certain substances of enzyme nature present in tears. Thus, lacrymal fluid that has been heated to a certain temperature and afterwards cooled again to the normal fails to prevent the growth of bacteria to the same degree as when it has not undergone any previous heating.

Professor Berg on Gastric Carcinoma.

At the inauguration of the new quarters of the Swedish Association of Physicians in Stockholm Professor John Berg delivered an address on his experience of operation for malignant tumour of the stomach during the years 1887–1906. The total number of such operations performed by him (in a few cases by his assistants) was 225. Of these 79 were resections of the stomach, 62 of which were made during the last ten years with only nine deaths, presenting a mortality of 14·5 per cent. As to the possibility of eradicating a malignant tumour of the stomach Professor Berg said he had one case well ten years and another five and a half years after the resection. But even if in most of the cases only a temporary palliative effect was procured he preferred to resect instead of performing a gastro-enterostomy even in cases where a radical operation did not seem possible, as the remainder of the patient's life was so much more comfortable when a resection had been performed.

Street Collection by Ladies for Charity in Copenhagen.

On May 7th the "Children's Relief Day" was celebrated for the fourth time in Copenhagen. The idea of this festival originated with a prominent member of the profession, Dr. Carlsen, and he had the good luck to interest other people in his idea to such a degree that the "day" seems now to have become a permanent institution. What Dr. Carlsen wished was to raise every year a considerable sum of money for the benefit of the infants' asylums, certain children's hospitals, &c. During the last four years he has succeeded in collecting on that one day in Copenhagen about £6000 each year. The way in which the money is extracted from the public is rather original and has largely contributed to make the day a popular success. About 10,000 boxes (of the shape of a savings' box) are distributed to trustworthy persons, mostly young ladies of the middle classes, who patrol practically all streets of the town, especially the great thoroughfares. As soon as a passer-by is espied by one of the fair collectors she hurries towards him jingling the box and asks prettily for a mite, a request which it is very difficult not to grant. The crowds of people enjoying this peaceable pillage, the inharmonious "music" of all descriptions produced on every side, with the incessant and deafening jingling of the boxes, create an impression of popular hilarity perhaps unprecedented under a northern sky. The scheme has been imitated in other towns of Denmark, Sweden, and Germany, but to my knowledge not yet in England.[1]

May 20th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Ulisse Aldrovandi.

WHIT-WEEK finds the "Mother of Universities" putting the finishing touches to its programme for the celebration of the third centenary of the death of Ulisse Aldrovandi, one of the greatest among the many great nature-students produced by Italy. A native of Bologna, where he was born in 1522, Aldrovandi had thoroughly mastered the Hippocratic principle that medicine, or the healing art, is a branch, if not, indeed, the culmination, of nature-study, and immediately after taking the "summi in medicina honores" he devoted himself, mind and soul, to the inductive sciences on which medicine is based, or rather out of which it springs. Physics, the so-called "natural philosophy," engrossed much of his attention, and from that, with its foundation in mathematics, he proceeded to the natural sciences proper, mineralogy, botany, and zoology. Called to the botanical chair in the Bologna School and appointed superintendent of the botanic garden in connexion with it he gave a powerful impulse to the study and prepared successive relays of nature-students for what was afterwards to be the profession of their choice—that of medicine. Enthusiast as he was in exploring the vegetable world he never lost touch with the sister realms of mineralogy and zoology, and visited the most distant countries in the quest for "specimens" to be afterwards classified and put in evidence for the Bologna School and for the outside world whom he attracted to it. In this strenuous life he exhausted his material resources as well as his bodily powers and at length succumbed, poor, blind, and ill, in the Bolognese hospital where he was allowed to die. He left behind him quite a library of publications, including six folio volumes on entomology and ornithology, in the preparation of which he employed a numerous and able staff of draughtsmen and wood engravers. This work was continued on the same lines after his death—"being dead he yet spoke" to the scientific world of his time. It is to commemorate his life and work that Italy, led by Bologna, is now about to celebrate his third centenary and already an organising committee of Italian nature-students and medical men is coöperating with sympathisers from other countries and seats of learning for the worthy carrying out of the programme. King Victor Emanuel III. is the honorary president of the committee, while the citation of a few names of the foreign members will suffice to indicate the importance attached to the celebration in both hemispheres. Thus we have Agassiz of New Cambridge and Bayly Balfour of Edinburgh; Fries of Upsala and Haeckel of Jena; Liversidge of Sydney (New South Wales) and Loeve of Tokio; Pereira of Lisbon and Sanse of Leyden; Spegazzini of Buenos Ayres and Stephanesco of Bucharest; Villada of Mexico and Wiesner of Vienna—to cull a few from a lengthy and distinguished list. Among English universities, Oxford, I see, has already nominated its delegate, and I have no doubt other seats of learning and scientific associations in the British Isles will be worthily represented on June 12th, the day on which the "Mother of Universities" pays her tribute (long over-due) to her eminent son.

An "Italian Association for the Advancement of Science."

In keeping with the now universally recognised principle that nature-study and medicine are parts of an organic whole, the latter "crowning the edifice" which the former has prepared, a movement, medical in its inspiration and inception, is now wellnigh carried to completion for the institution on British lines of an "Italian Association for the Advancement of Science." Proposed at Milan last year it has now taken form and development under capable organisers, including Professor Romiti of Pisa, whose distinction as an anatomist was worthily acknowledged last year at the Aberdeen quatercentenary by the bestowal of an honorary degree. The first meeting will be held at Parma in September next, when it is hoped that the sister Powers of Europe, as well as those of the New World, will assist in an auspicious "send-off." Invitations will be issued to the nature-students and men of science of other countries to take part and the season, the early autumn, ought to present no obstacle to their coming. Italy has many associations for the advancement of special sciences—none more flourishing than the medical—but, as Professor Romiti has ably put it, she has yet to form an association which shall "represent the synthesis" of these. Attempts were made in 1839 and 1875 to start such an association on the British model, but though they proved attractive and—the latter especially—fruitful in valuable work they have had no successor. Now, however, the attempt has been renewed and from the organisation behind it it is fair to conclude that the association will not only justify its programme but will have "come to stay."

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[1] The collection of money for charitable purposes by ladies in the public streets is not unknown in England, though we do not think it has yet served to constitute a popular festival or has been attended with such results as our correspondent quotes.—ED. L.

May 20th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

PLAGUE continues in Sydney and Brisbane. Six cases have occurred in Sydney since my last communication, two of which were fatal, and many plague-infected rats have been found. In Brisbane two cases were reported and removed to the plague hospital in one day and rats were found infected in great numbers. The total number of cases of plague in New South Wales since the disease first occurred in 1900 is 566, with 192 deaths. The largest number occurred in 1900, 303 being reported in Sydney, with 103 deaths. In 1901, only two cases and one death; in 1902, 138 cases and 38 deaths; 1903, two cases and no deaths; 1904, ten cases and six deaths; 1905, 18 cases and five deaths; 1906, 20 cases and eight deaths; and this year so far 29 cases have been reported and eight deaths. At Newcastle 15 cases occurred with four deaths, and four cases, all fatal, at Kempsey. In each year the greatest number of cases has been in March and April. Destruction of rats is vigorously carried out in Melbourne and the berthing regulations are strictly enforced, and so far no cases of plague have occurred.

Cerebro-spinal Meningitis.

Cerebro-spinal meningitis exists in a sporadic form in Melbourne. During the past 12 months four cases have been treated at the Children's Hospital and one at the Melbourne Hospital. The disease has never shown any tendency to become epidemic.

Epidemic Disease in Victoria.

The following return of certain diseases for the fortnight ending March 9th, with a comparison of the average returns for the same period in the years 1903 to 1906, was presented at a recent meeting of the Board of Public Health of Victoria:—

—	In the whole State.		In the metropolitan area.	
	1907.	Average. 1903–1906.	1907.	Average. 1903–1906.
Typhoid fever cases ...	100	189	27	62
Typhoid fever deaths ...	2	10	0	5
Diphtheria cases	34	56	20	22
Diphtheria deaths ..	0	2	0	1
Scarlet fever cases ...	8	71	2	42
Scarlet fever deaths ...	0	0	0	0

Australasian Medical Congress.

The next Australasian Medical Congress is to meet in Melbourne in October, 1908, under the Presidency of Professor H. B. Allen. A representative organisation committee has been appointed, with Dr. Henry C. Maudsley as secretary-general and Mr. G. A. Syme as treasurer. The arrangements of the sections have been completed and a circular has been drafted. It was feared that some difficulty might be caused by the refusal of the Government to print the transactions, as the Government of each State in which the Congress has been held has hitherto done, but a deputation waited on the Premier and after discussion the Cabinet agreed that the necessary printing should be done at the Government printing-office.

Study of Tropical Diseases.

THE Bishop of North Queensland has submitted a memorandum to the committee of the Townsville Hospital suggesting that Townsville should be made the seat of an Institute for the Study of Australian Tropical Diseases, under the direction of the Medical Faculty of the University of Sydney and in constant correspondence with, and relation to, the pathological and other scientific departments of the Universities of Melbourne and Adelaide. He suggests that such an institute should be subsidised by the Commonwealth and Queensland Governments. The scheme has been approved formally by the Council of the University of Melbourne.

Medical Curriculum, Melbourne.

At the last meeting of the Senate of the University of Melbourne the medical curriculum was further amended. Clinical medicine and clinical surgery are to be separate subjects of examination with a separate board of examiners. The final examinations are to be held a fortnight earlier. The new curriculum is on its trial and the transition from the old to the new has been got over without great difficulty. Students, however, complain that the third year's arrangements are not satisfactory. A new difficulty has arisen in a grave shortage in the supply of subjects for dissection. There are no workhouses or poorhouses in Victoria and the present supply comes from unclaimed bodies from the various hospitals and an institution formerly known as the immigrants' home, which is practically a poorhouse, now called the Victorian Homes for the Aged and Infirm. Another institution of a similar character, really a poorhouse, is the Benevolent Asylum. Dr. R. J. A. Berry, the new professor of anatomy, recently wrote to the committee of this charity asking for assistance in providing subjects but the committee declined.

Infant Life Protection.

The need for more efficient means of protecting boarded-out infants is constantly emphasised at inquests held on these unfortunate children. The Chief Secretary of Victoria is considering proposals on the subject, one of which is the employment of female inspectors in place of the police, and another that the children should be inspected up to five years instead of two as at present. In Sydney an attempt to improve the health of infants has been made at the out-patient department of the Women's Hospital. The mothers who have been confined in the hospital are invited to bring their infants to the hospital for inspection, honorary medical officers attending on one afternoon a week for the purpose. The infant is weighed and the record handed to the medical man. If unsatisfactory the child is examined and the cause ascertained and remedied if possible. The work is intended to be educational, to help mothers to keep their babies in good health. This "infants' observation" work has only been in operation for five months but the results have been satisfactory. Other poor women besides those who have been patients are invited to bring their infants for "observation."

Health Administration in Victoria.

Dr. Norris, chairman of the Board of Health, Victoria, has prepared an exhaustive memorandum on the reform of local health administration by the constitution of combined sanitary districts with whole time and expert officers of health. These officers would report simultaneously to the local board and the Board of Health and if the latter's coercive powers were somewhat increased it would be in a position to move the local councils which failed to use the powers that they possess. The administration of the Health Act by the Board inspection of the local bodies does not meet with Dr. Norris's approval.

Chinese Herbalist's Treatment.

At an inquest recently held on a man at Myrtleford, Victoria, the evidence showed that the deceased had suffered from lung disease for three years and for eight months had been treated by a Chinese herbalist who ordered the withdrawal of milk, cream, fats, and water, and the drinking of large quantities of infusions of herbs, which made him sick. The Chinaman had been paid £75 and had promised to effect a cure. The jury brought in a verdict that the deceased died from tuberculosis and that death was unduly accelerated by unskilful treatment.

Presentation to a Medical Man.

Mr. E. Ken Herring, on leaving Shepparton to practise in Sydney, was presented with a smoker's outfit by the Shepparton Bowling Club. Mr. and Mrs. Herring were presented with a collection of silver ware and Mrs. Herring also received a silver afternoon tea service from the Shepparton ladies.

Medical Man attacked by Lunatic.

Dr. Montgomery, medical superintendent of Claremont Hospital for the Insane, West Australia, has been violently attacked by one of the inmates, who struck him on the head with a stone, rendering him unconscious. He is recovering satisfactorily.

April 16th.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board, under the provisions of Rule 4 of the Rules of Procedure, was held at Caxton House, Westminster, on May 16th, Dr. F. H. Champneys being in the chair. The Board considered charges as stated after their names against the following midwives whose names were ordered to be erased from the roll: Ann Bamford, that being in attendance at a confinement, the patient suffering from puerperal fever, she did not decline to attend alone and advise that a registered medical practitioner be sent for. Eliza Bill, that being in attendance at a confinement she was intoxicated and incapable of performing her duties. Caroline Cartledge, that being in attendance at a confinement, the patient suffering from foul-smelling discharges, from headaches, and from abdominal pains, she did not decline to attend alone and advise that a registered medical practitioner be sent for. Harriet Cooper, that being in attendance at a confinement, being unable to deliver the child, the labour being abnormal, she refused to have a registered medical practitioner sent for. Caroline Emma Fisher, that she did not use or possess the appliances or antiseptics required by Rule E 2, that she did not keep a register of cases, and that she was not scrupulously clean and did not wear a dress of washable material. This midwife signed a paper requesting the Board to remove her name from the roll. Elizabeth Ann Goodall, that being in attendance at a confinement she did not wash the patient at any time nor did she give full directions for securing the comfort and proper dieting of the mother and child during the lying-in period and that she sent an uncertified person to act as her substitute. Seline Hitchins, that being in attendance at a confinement the perineum being seriously ruptured, she did not decline to attend alone and advise that a registered medical practitioner be sent for. Sarah Ann Homer, that being in attendance at a confinement, the patient suffering from severe abdominal pain with swelling and signs of insufficient contraction of the uterus, she did not decline to attend alone and advise that a registered medical practitioner be sent for. Sarah Skitt, that being in attendance at a confinement, the patient being ill with a temperature above 100·4° F. and a foul-smelling discharge, she did not decline to attend alone and advise that a registered medical practitioner be sent for. Thurza Smith, that being in attendance at a confinement, the placenta not having been expelled an hour after the birth of the child, she did not decline to attend alone and advise that a registered medical practitioner be sent for. The following midwives were censured by the Board after the following charges stated after their names had been considered: Mary Brookes, that being in attendance at a confinement, the child's eyes being inflamed at birth, she did not decline to attend alone and advise that a registered medical practitioner be sent for. Eliza Burgess, that being in attendance at a confinement, the patient being a primipara, and there being a breech presentation, she did not decline to attend alone and advise that a registered medical practitioner be sent for. Elizabeth A. Long, that being in attendance at a confinement, the child suffering from septic infection of the cord, she did not decline to attend alone and advise that a medical practitioner be sent for. Caroline Lovatt, that being in attendance at a confinement, the patient being delirious, she did not decline to attend alone and advise that a registered medical practitioner be sent for. Mary Morrall, that being in attendance at a confinement, the patient suffering from puerperal fever, she did not decline to attend alone and advise that a registered medical practitioner be sent for.

Obituary.

ROBERT BARNES, M.D. LOND., F.R.C.P. LOND., F.R C.S. ENG. (HON. CAUSÂ.),

CONSULTING OBSTETRIC PHYSICIAN TO ST. GEORGE'S HOSPITAL.

Robert Barnes was born in Norwich on Sept. 4th, 1817. His father, Philip Barnes, was an architect, a member of an old Norwich family, who having private means did not practise his profession. Philip Barnes migrated to London and was the founder of the Royal Botanic Gardens in Regent's Park. Robert Barnes's mother's maiden name was Miss Harriet Futter. His grandfather was a Norfolk squire of good property. When he was about nine years old young Robert Barnes was sent with his elder brother to school at Bruges. His father was one of the few educated men who early in the last century did not believe that a boy who had to make his own way in the world would be best fitted for that hard task by spending the greater part of his school life in the study of dead languages. He was resolved to give his sons an opportunity of gaining for themselves a sound knowledge of at least one other living language besides English, and so the two boys went to school at Bruges. There they remained for four years and then only left on the outbreak of the revolution which ended in the separation of Belgium from Holland. It was at Bruges that Robert Barnes acquired that facility in the use of the French language which was so useful to him throughout his professional life and which, up to the time of his last illness, was a source of great pleasure to him. Young Barnes, on his return from Bruges, went to his father's home in Norwich and there continued his studies under a French refugee and a private tutor, John Thurgar. Later he read with George Borrow, the author of "The Bible in Spain." When 15 years of age Barnes was, after the manner of those days, articled to Richard Griffin, a surgeon practising in Norwich, who was one of the most prominent Poor-law reformers of his day and the founder of an Association of Poor-law Medical Officers When as a student of medicine Barnes came to London he entered upon his studies at University College. Thence he migrated to the Windmill-street School of Medicine, having been offered the joint posts of secretary to the school and house surgeon at Queen Adelaide's Lying-in Hospital. He served for two years at Queen Adelaide's Hospital and was also a student of St. George's Hospital.

Having become a Member of the Royal College of Surgeons of England, Barnes in 1842 went to Paris, where he arrived with £10 only in his pocket, and during his year of study there chiefly supported himself by his pen and by giving lessons in English. On his return to London he was an unsuccessful candidate for the post of resident physician at Bethlem Hospital—a defeat for which in later life he felt grateful. He could not afford to wait for practice and so he began work as a general practitioner at Notting Hill and there passed some years of his life. He, however, kept steadily in view his ambition which was to gain a post as lecturer in a London medical school. After holding one or two unimportant appointments he received the post of assistant obstetric physician to the London Hospital, and on the death of Dr. Ramsbotham a year or two later was promoted obstetric physician to that hospital. He was also soon elected physician to the Seamen's Hospital, the East London Hospital for Children, and the Royal Maternity Charity. St. Thomas's Hospital in 1862 invited Barnes to fill the office of obstetric physician and he migrated to that hospital from the London Hospital. A dozen years later he was appointed obstetric physician and lecturer at his old school, St. George's Hospital, and so he had the, perhaps unique, experience of having taught midwifery in three of the great London hospitals.

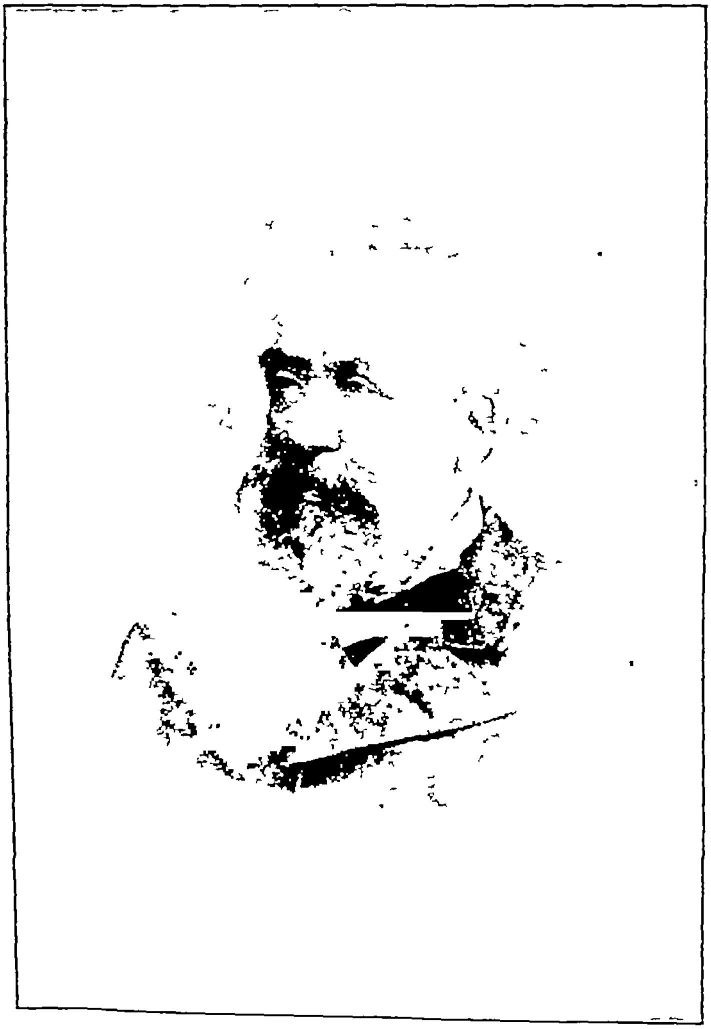
Barnes graduated M.D. Lond. in 1848, obtained the Membership of the Royal College of Physicians of London in 1853, and was elected Fellow of the College in 1857. He was a Fellow of many learned societies both in England and abroad, and in 1883 received the rare distinction of an Honorary Fellowship of the Royal College of Surgeons of England; but of all the honours offered to him he was proudest of the Honorary Fellowship which was conferred upon him by the Royal Medical and Chirurgical Society at its centenary celebration in 1905. He often spoke of the days in his early life when he was dependent in no small measure on his pen for his living. His connexion with the staff of THE LANCET in those days and for years afterwards was a pleasant memory to him, and he often dwelt on these experiences with satisfaction; indeed, he used to say that he owed much to the training of the intellectual faculties which writing for the press entailed upon him. There are few members of the staff of THE LANCET now living who actually were his collaborators in our columns, but the tradition of his work has been handed down to us, and it reports him as a remarkably clear, scholarly, and vigorous writer, determined to be fair but also determined not to let any squeamishness prevent him from telling the truth. Until the very end of his days Dr. Barnes would send us small notes on matters which he thought would interest our readers, and his communications always attracted notice. His contributions to medical literature both within and outside our columns were numerous and many of them of great value.

In the year 1847 he published in THE LANCET a Memoir on Placenta Prævia in which he first enunciated the views as to the pathology of this condition which he elaborated in his *Lettsomian Lectures* delivered before the Medical Society of London in the year 1857. In these lectures he pointed out very clearly and forcibly the important part played by the dilatation of the cervix in causing the separation of the placenta, and he advocated his well-known method of artificially separating the prævial portion of the placenta so as to arrest the hæmorrhage as soon as possible. This mode of treatment is still successfully practised by many obstetricians, although, in accordance with the modern practice of not introducing the hand into the uterine cavity if it can be avoided, it has to some extent been abandoned. A number of valuable contributions from his pen are to be found in the Transactions of the Obstetrical Society of London and in the pages of the medical journals. Amongst these we may allude to his papers on the following subjects—Induction of Premature Labour, Thrombosis and Embolism of Lying-in Women, Chorea in Pregnancy, Spondylolisthesis, Dysmenorrhœa, the Use of Perchloride of Iron in the Treatment of Post-partum Hæmorrhage, Intraperitoneal Hæmatocele, the Treatment of the Placenta in Cases of Extra-uterine Gestation, a Method of Suturing the Uterine and Abdominal Walls in Cæsarean Section, and the Use of the Forceps in Lingering Labour. The rubber hydrostatic dilators which bear his name, although they have been supplanted in recent years by the more useful and convenient Champétier de Ribes's bag, yet for a very long time formed a most helpful and safe means of procuring dilatation of the cervical canal. Barnes was also one of the chief advocates of the use of the long forceps in this country and he did much towards securing their acceptance by other obstetricians. His writings on the mechanism of labour, more especially with reference to Naegele's obliquity and the effect of the lumbo-sacral curve, are well known, and the advances which he made in the performance of the different operations for the delivery of the perforated head and in the carrying out of version are exemplified in the teaching of the present day. The two most important works published by Barnes were his "Lectures on Obstetric Operations" and his "Clinical History of the Medical and Surgical Diseases of Women." The former book is still a classic in the literature of obstetric medicine. It is one of the best and most practical books which have been written on this subject and it has served as a practical guide for thousands of medical practitioners. As Professor Pajot points out in his preface to the French translation, "the book is not a dogmatic treatise on the obstetric operations; it is a series of original lectures, comprising at the same time a practical analysis of the serious accidents of parturition, the indications for, and the manner of, operating, the method to choose, the instrument to prefer, and the details of the manœuvres required to insure success. The clearness of the style is perfect, and in fact all the questions of obstetrics are treated with accurate good sense. At each instant by some remark or other is seen revealed a superior mind ripened by having seen much and meditated much." The book contains a wealth of clinical material well analysed and digested, and we can only wish that it was read more widely than it appears to be at the present time. The work on the Diseases of Women is less well known and, indeed, is not so valuable a book. It contains, however, the result of a large experience and shows evidence of a very extensive knowledge of the literature of the subject. Dr. Barnes was the possessor of a happy style not only in his oral lectures but also in his writings; he could express himself forcibly and clearly and his large clinical experience rendered his opinions of great value. He stood out as a commanding personality amongst the teachers of his day, and much of his teaching may be found embodied in the practice advocated in modern text-books and founded as it was on accurate observations and correct deductions it need not fear the criticism of the future. He was a worthy follower of such men as Chamberlin, Smellie, Denman, Ramsbotham, and Simpson, and the historian of the English school of obstetric medicine will be compelled to pay much attention to the teaching and writings of Robert Barnes.

Dr. Barnes retired from consulting practice some 20 years ago and enjoyed during the long evening of his valuable life remarkable physical and mental health which in no small measure remained with him till February of this year, though in his later years he suffered from attacks of gout. When he was well over 80 years of age he suffered greatly from stone in the bladder, but after Mr. Buxton Browne crushed the stone his patient made a perfect recovery. It was not until this year that Dr. Barnes's health actually broke down. On Feb. 21st he awoke suffering from severe cramp in the left hand. As the pain continued he sent for Dr. H. Colgate who found evidences of thrombosis of the left brachial artery. In an hour or two there were symptoms of the same condition in the right arm. There was no loss of consciousness and Dr. Barnes calmly gave directions for the arrangement of his affairs. In 24 hours reappearance of pulsation in the affected vessels had set in and little by little there was a complete recovery of the circulation. The patient was not allowed to walk but was carried to his carriage and took daily drives, read, wrote letters, arranged his papers, and conducted business affairs. About three weeks before his death he had an attack of angina pectoris and suffered severely. The lungs became congested and œdematous. From this attack he rallied, again drove out, and tried to resume his usual occupations but this he could not do, his only complaint being that he felt unequal to his work. On May 11th there was plugging of the right femoral artery and on the following day plugging of the left popliteal artery, and soon afterwards, without evidence of suffering, he died.

Dr. Colgate of Eastbourne, who was his medical adviser and a friend of many years' standing, writes of Dr. Barnes: "As a mental exercise not only did he follow in the periodicals the progress of medicine but at the age of 85 he took up the study of Spanish and daily read Spanish books and papers. He also joined the Eastbourne Medical Society and was a frequent and interested attendant at the meetings. It was only during last summer that Dr. Barnes gave up his morning sea bath which he used keenly to enjoy. He walked down from his house to the shore, got into a boat, and when far enough from land dived from his boat and struck out vigorously. After his swim he sculled about for an hour or so, and then walked, sat in the sunshine, smoked a cigarette or two, and read the morning paper." A personal friend has sent us further details of Dr. Barnes's health which show that his brain was in good working order until last February, and even after that time his letters to our informant proved that he had a clear understanding of affairs, and that he made no mistake as to the meaning of the grave symptoms which had prostrated him on Feb. 21st. In the last of these letters—it was written on April 28th—Dr. Barnes said he could not hope again to visit London. It was his habit for many years to pay weekly visits to London for the purpose of attending the meetings of the board of directors of the Prudential Assurance Society. He often spent the night after these meetings in London and dined with the friend in question, "enjoying his dinner thoroughly, chatting about the events of the day and vigorously upholding his views touching matters political, about which he and his host were not always of the same opinion. After dinner he used to join his host's family in a rubber of whist. He was fond of the game and played it with great good humour. Indeed, a game of cards with people whom he knew well and liked was one of his pleasures and was a daily part of his family life. He regarded sixpenny points at whist as extravagant and detested what he deemed high stakes at any game."

From what we have said it is clear that the late Dr. Robert Barnes was a distinctly remarkable man, and he conformed to the rule that all men of strong personality are prone to strong likings and dislikings of their fellow men. Dr. Barnes had a strong personality and his likings and dislikings were very strongly marked. He was tenacious to a



ROBERT BARNES, M.D. LOND., F.R.C.P. LOND., F.R.C.S. ENG.,
CONSULTING OBSTETRIC PHYSICIAN TO ST. GEORGE'S HOSPITAL.

high degree of any opinion which he had formed or adopted. Where his profession was concerned he was slow to approve or to condemn anything that was new to him, but if the subject interested him he carefully studied the new departure and formed his own opinion about it and from that opinion he was not easily turned. His judgment was sound and as a lecturer, or by the bedside, or in conversation, or in debate his expression of his views was given in clear and terse language. In defence and in attack Barnes often used very forcible words and sometimes what he said carried a sting with it which left where it struck a soreness of a far from transient kind. So, though very many men liked him and still more admired his ability, Barnes was not at all wanting in the making of enemies, a misfortune which sometimes turns to a man's profit and from which hardly any men of strong personality are free.

Dr. Barnes was twice married, first to Miss Eliza Fawkener, daughter of a London solicitor. By her he had three children, one son, Dr. R. S. Fancourt Barnes, and two daughters, one of whom is the wife of Dr. A. S. Newington of Ticehurst in Sussex. Some years after the death of his first wife Dr. Barnes married in 1880 Miss Alice Maria Hughes, daughter of Captain William Garnons Hughes, R.A., of Glancothy, Carmarthenshire, D.L., and J.P. for that county. Of the marriage there are two children, a son and a daughter.

At the funeral, which took place at Eastbourne on May 16th, the Royal College of Physicians of London was represented by Dr. Heron, the Royal Medical and Chirurgical Society by Mr. J. Y. W. MacAlister, and THE LANCET by Dr. J. G. Glover.

WILLIAM SEYMOUR BURROWS, J.P., B.A. CANTAB., M.R.C.S. ENG.

BY the death of Mr. W. Seymour Burrows, of Exton Mansions, Hove, Brighton loses one of its most familiar and interesting figures. His decease will be acutely felt by a large circle of friends and patients, many of whom regarded him almost as a brother rather than as an acquaintance. He was a true, kind, generous-hearted man, a firm friend, and a most genial and humorous companion. He was the son of the late Sir John Cordy Burrows, F.R.C.S., who in his day was one of the most respected and popular men in Brighton (*vide* THE LANCET, vol. i., p. 515 and p. 548, 1876) and who did great things for the town, was thrice mayor, was knighted, and was specially honoured by having a statue erected to his memory at the main entrance to the Pavilion Gardens. W. Seymour Burrows after his school life went to the University of Cambridge, where he graduated as B.A. in 1870; thence he went to St. George's Hospital and took the diploma of M.R C.S. Eng. in 1875. He then joined his father in general practice at the old house in the Old Steine, and there he resided until quite recently, when the noise caused by the new tramcars forced him reluctantly to leave his old home and to seek a more quiet spot. Apart from his professional practice, which was large and influential, he found time for many and various pursuits. He early in life took an active interest in the Volunteer movement and this interest was maintained until within a year or two of his death. He attained the rank of Surgeon-Lieutenant-Colonel and he was one of the first to receive the decoration of "V.D." His name will perhaps be best remembered in connexion with the amount of good work which he did for the town as a trustee of the race stand. He succeeded his father as a trustee and for many years he and Alderman Abbey, J.P., were the sole trustees. As a result of their careful management the town received many munificent gifts, amongst them being what is known as the Tenantry Down, also the Queen's Park, while a large sum—some £3000 or £4000—was left to the town to be invested and the interest applied at Christmas time on behalf of the aged and deserving poor. As an outcome of all this good work the corporation as a mark of its high esteem and gratitude at a banquet presented Mr. Seymour Burrows with a beautiful illuminated address and a most valuable and handsome silver salver. He was an ardent Freemason. He was a member of the Yarborough Lodge, of which lodge he was Worshipful Master in 1887. Among other prominent distinctions he was Past Provincial Junior Grand Deacon for Sussex.

For some years past Mr. Seymour Burrows had not been in robust health and during the past year it was only too obvious to his friends that his health was fast failing, though he was not confined to his house until the last two or three weeks of his illness. The end came on May 8th when he died suddenly from heart failure. He was aged 58 years. The body was cremated at Golder's Green on May 10th and the interment of the ashes in the family vault took place on the following day. The funeral was attended by a large assembly of old patients and friends and representatives were present of the Masonic and other institutions to which he belonged.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. W. C. Glasgow, formerly professor of laryngology in Washington.—Dr. George Gabrichevski, founder of the Moscow Bacteriological Institute.—Dr. C. Féré of the Bicêtre Hospital, Paris.—Dr. Hugo Magnus, extraordinary professor of ophthalmology in the University of Breslau. His writings include not only ophthalmological subjects but many papers on the history of medicine.—Dr. Hugo Beckmann, a Berlin laryngologist, at the age of 46 years.—Dr. Ferdinand Klug, *privat-docent* of otology in the University of Budapest.—Dr. Anton Bleichsteiner, professor of odontology in Prague.—Dr. Ashbel P. Grinnell, formerly professor of medicine in the University of Vermont.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the First Professional Examination for the Licence in Dental Surgery the following gentlemen were approved in the subjects indicated:—

Mechanical Dentistry and Dental Metallurgy.—Stammers Henry Alabaster, Royal Dental Hospital; Herbert Stuart Blackmore, Royal Dental Hospital; Frank Bocquet Bull, Guy's Hospital; Victor Charles Burt, Royal Dental Hospital; Percivale James Burton, University College, Bristol; Norman Sambell Cardell, Liverpool University; Stephen Wilson Charles, Guy's Hospital; Abraham Cohen, Guy's Hospital; Robert Morris Colwill, Royal Dental Hospital; Arthur Ernest Conway, National Dental Hospital; Leonard Marshall Crockett, Royal Dental Hospital; George Leslie Curnock, Royal Dental Hospital; Hubert Daw, Guy's Hospital; Walter Edmund Drummond, University College, Bristol; William Henry Edmonds, Guy's Hospital; Ernest William Frank Falkner, Liverpool University; George Frederick Fawn, University College, Bristol; Linton Albert Ramsey Fennell, Royal Dental Hospital; John Daniel George, Guy's Hospital; Henry Vincent Gibbons, Guy's Hospital; John Ferguson Gow, Royal Dental Hospital; Leonard Beard Griffin, Guy's Hospital; Louis François Guanziroli, Charing Cross Hospital and Royal Dental Hospital; Henry Hall, Royal Dental Hospital; Claud Noel Hardman, Sheffield University; Newcome Herbert Harrison, Royal Dental Hospital; Percy Samuel Harrison, Guy's Hospital; John Percival Helliwell, Manchester University; Louis Edwin Hitchcock, National Dental Hospital; Ernest Alfred Sebastian Hoare, Royal Dental Hospital; William Archer Hodgson, Guy's Hospital; Ivor Robert Hudleston, University College, Bristol; Percy Stanley Humm, Guy's Hospital; William Alfred James, Guy's Hospital; Gordon Johnson, Royal Dental Hospital; William Joseph Kennealy, Guy's Hospital; William Stocks Lacey, Guy's Hospital; John Vollans Lambert, Royal Dental Hospital; Linthall Harry Leatherby, Royal Dental Hospital; Frank Augustus Lowe, Guy's Hospital; James Norman McNaught, Liverpool University; Douglas John Marr, M.B., Ch.B. Aberdeen, Royal Dental Hospital; Ainslie Palk Marsh, Guy's Hospital; Harold Matthews Meek, Manchester University; Jamshedji Jivanji Modi, L.M. & S. Bombay, Bombay University and Royal Dental Hospital; Reginald Charles Morgan, Guy's Hospital; Robert William Morrell, Guy's Hospital; Alfred Bunce Plank, Liverpool University; Roland Thomas Pounds, Royal Dental Hospital; Harold William Read, M.R.C.S., L.R.C.P., Royal Dental Hospital; Augustus John Reynolds, Guy's Hospital; John Roberts, Guy's Hospital; Sydney Shovelton, Birmingham University; Edgar Smith, Guy's Hospital; Edgar Eaton Solomon, Guy's Hospital; Harold Gordon Spain, Guy's Hospital; Eric Le Masurier Spurgeon, Royal Dental Hospital; Dudley Bayzand Tasker, Guy's Hospital, William Edgar Antonius Tibbalds, Guy's Hospital; Edgar Arthur Tomes, Guy's Hospital; Arthur George Trott, Royal Dental Hospital; Augustus Vallack Wallis, Royal Dental Hospital; Joseph Jackson Wardill, Royal Dental Hospital; Alexander MacDonald Watson, Guy's Hospital; Walter Ernest Watson, Guy's Hospital; Walter William Whittington, Royal Dental Hospital; and George Kerry Wild, Birmingham University.

Mechanical Dentistry.—William Percy Charles Ashdown, National Dental Hospital; Malcolm Barker, Royal Dental Hospital; Robert Hope, Harvard University and Guy's Hospital; Doric Yvon Hylton, Guy's Hospital; Alfred Samuel, Guy's Hospital; and Albert John Schaefer, Guy's Hospital.

Dental Metallurgy.—Oswald Roy Allison, Manchester University; Thomas Percy Brown, Birmingham University; Neville Dutton Clarke, Guy's Hospital; Norman Malcolm McArthur Douglas, Liverpool University; Frank Harold Edey, Guy's Hospital; Edward Inglis Hall, Royal Dental Hospital; John Wilfrid Hall, Guy's Hospital; Henry Stanley Pugh, Guy's Hospital; Stanley Alfred Riddett, Royal Dental Hospital; William Sherritt, Sheffield University; Stanley Runton Storey, Royal Dental Hospital; and James Roy Williams, Manchester University.

UNIVERSITY OF CAMBRIDGE.—Courses will be given during the Long Vacation, commencing on July 4th, in elementary physiology, osteology, histology, practical physiology, topographical anatomy, and dissections. The first, second, and third (Part I.) examinations for the M.B. and B.C. degrees will begin on June 10th. Names and certificates of candidates must reach the registrar by June 4th.—At the congregation on May 9th the following degrees were conferred:—

M.D.—D. W. Carr and G. W. Micklethwait, Trinity.
Sc.D.—H. H. W. Pearson, Caius.
M.B.—W. L. Murphy, St. John's.
B.C.—W. E. Lee and J. H. Pratt, Trinity; R. R. Walker, St John's; A. R. Jordan, Clare; S. P. Chan and R. G. Markham, Caius; H. J. Fardon, Christ's; and R. B. Lloyd and J. H. B. Martin, Emmanuel.

UNIVERSITY OF LONDON: UNIVERSITY COLLEGE.—The electors will shortly proceed to elect a Sharpey Physiological Scholar in place of Dr. J. M. Hamill who has resigned. The scholar will receive a sum of £150 a year. Candidates must have attended one or more classes in the Faculty of Medical Sciences or of Science in the College. As the purpose of the scholarship is to give those who intend to qualify themselves for physiological or pathological work, whether as teachers or investigators, the opportunity of acquiring the requisite knowledge and skill, the holder of the scholarship is expected to devote his whole time to his duties in the laboratory. Under the terms of the endowment the Sharpey Scholar is required to assist throughout the session in the teaching of the students in the class of practical physiology and will, if required, aid the professor of physiology in the conduct of physiological inquiries. The appointment of the scholarship will be for one year but the holder of the scholarship is eligible for re-election. Full particulars of the scholarship can be obtained on application to the secretary of the College or to Professor E. H. Starling. Applications should be made by letter only to Walter W. Setton, M.A., secretary, on or before June 16th.

SOCIETY OF ARTS.—Medical questions of public interest, capable of being adequately presented in some of their aspects to a non-professional audience, occasionally form the subject of papers read before the Society of Arts. Sleeping sickness has recently received much attention from governments and administrators owing to the enormous loss of life which it has caused in Equatorial Africa and the possibility that it may spread into other tropical countries. The earliest record of it was made in 1803 by Dr. Thomas Masterman Winterbottom who observed it among natives of Africa in the neighbourhood of Sierra Leone. Most of Dr. Winterbottom's life was spent at South Shields where he died on July 8th, 1859, at the age of 94 years. He was the oldest medical man registered under the Medical Act of 1858. On May 15th a paper entitled "Trypanosomiasis or Sleeping Sickness" was read at a meeting of the Society of Arts by Dr. Herbert W. G. Macleod. He said that the disease was endemic in Equatorial Africa. On the coast line it extended from the Senegal river in the north to Loanda in Portuguese West Africa in the south. It was also met with as far inland as the Victoria Nyanza and Albert Nyanza, and the regions adjoining the rivers Senegal, Niger, Congo, and Nile were specially affected. It was known that in the valley of the Congo from 400,000 to 600,000 deaths from this cause have occurred during the last ten years, and in Uganda alone the mortality has reached from 40,000 to 50,000. The trypanosome or organism which caused the disease consisted of protoplasm, was single-celled, had an elongated irregular shape, and was pointed at each end. It possessed a nucleus and nucleolus distinct from one another and a peculiar wavy line known as the "undulating membrane," which commenced in the nucleolus at one extremity and terminated at the other end in a fine thread or flagellum. This acted as a propelling organ and by lashing movements the trypanosome swam about in the blood stream—a worm-like organism wriggling actively among the blood corpuscles. In length it was somewhat greater and in breadth it was somewhat less than the diameter of a red blood corpuscle. It never penetrated into a corpuscle, as the organism of malaria did. It could be cultivated outside the body in agar jelly containing human blood. It reproduced itself by longitudinal division. The disease was communicated from one person to another by a blood-sucking insect, the glossina palpalis, a variety of the tsetse fly, which by feeding first on the blood of an infected person and then on the blood of a non-infected person conveyed the trypanosome from the former to the latter. It was believed that the fly did not continue to be infective for longer than 48 hours, or at most three days, after sucking infected blood. The length of glossina palpalis from the tip of the proboscis to the end of the closed wings was about half an inch. Dr. Macleod described the morphology and development of several species of glossina at considerable length, and specimens of the insects in glass tubes were handed round for inspection. With regard to the symptoms of the disease he said that it was not possible to tell how long a person might remain infected without showing any signs of the malady. This latent stage might extend over a year or more; or the signs of illness might be so indefinite that suspicion was not aroused. The first symptom that attracted notice was an enlargement of the glands in the neck. From these glands the trypanosome might be obtained. Nervous symptoms subsequently appeared, such as great lassitude and lethargy, accompanied by emaciation. The sleepy condition did not always make its appearance; heavy sleep was symptomatic in a comparatively small number of cases and in every instance its presence indicated the terminal stage of the disease. So far as was known, attacks attended by definite symptoms of the disease were always fatal. Recently atoxyl has been administered and a few patients have apparently benefited under its use; it was still under trial. Dr. Macleod incidentally made some short references to diseases produced by trypanosomata in the lower animals. He said that in India Evans first discovered a trypanosome in 1880 which caused the disease known as surra in horses and cattle; this disease was communicated by the bite of a blood-sucking fly. The tsetse-fly disease (known as nagana) among horses in South Africa was another example. He also gave an outline of the discovery of the trypanosome of sleeping sickness, mentioning the names of Forde, Dutton, Castellani, Bruce, and others.

THE ABUSE OF COCAINE.—Within the past five years (writes the British Consul at Baltimore, U.S.A.) the excessive indulgence in cocaine by the poorer people, and especially by the negroes, has increased enormously, bringing with it its usual demoralisation and degradation, as well as, according to some observers, an increase in the death-rate among the negro population. The Health Commissioner, however, is not of that opinion: he attributes the high mortality in that race to consumption principally. The evil became so apparent, especially in the police courts, where it was estimated that 70 per cent. of the prisoners were users of the drug, that the Maryland legislature passed a law in 1906 prohibiting the sale of it in any quantity, either in a pure state or combined with other articles unless prescribed by a medical man. The penalty for violation of the law is a fine of not less than £5 or more than £10 for the first offence, and for the second offence from £10 to £20, whilst for the third offence the offender may be fined from £20 to £40, with the addition of not more than 60 days' imprisonment and the forfeiture, should the offender be a druggist, of the pharmacist's licence. It is said by the police that the law has had little effect in breaking up the traffic, because of the inadequate punishment imposed by it and that to make it operative the first offence should be punished by imprisonment. The profits on the sale of the drug are so enormous that the imposition of a fine is thought little of in the way of punishment by the vendor of it.

CLIMATE OF SAN DIEGO.—Mr. Hutchinson, British Vice-Consul, writes that the great asset of San Diego is its climate. Occupying the extreme south-west corner of the United States, with an extent of country reaching eastward along the Mexican border as far as the Colorado River, it contains within its borders almost every condition of climate, from desert heat and cool mountain altitudes to the most equable climate in the world on the Pacific coast, where San Diego is situated. The cool sea breeze which blows through the summer months keeps the temperature down, with a very few exceptions, below 80° F., while the winter is remarkable for sunshine and warm weather. In the words of a former Vice Consul, "San Diego has long been recognised as having the best climate in the United States, and it is increasingly becoming a resort for invalids and persons of means desiring a pleasant residence free from extremes of heat or cold, from malarial influences, and from storms. It is represented by travellers and physicians from personal experience, as well as study of the climatic records of the various places, that the climate of San Diego is preferable to that of any part of the Riviera or any other European resort." The statistics of the weather bureau for

1906 show: highest temperature (Sept. 31st), 91°; lowest temperature (Jan. 1st), 35°; number of days above 80°, 11; number of days below 40°, 4; seasonal rainfall, from September, 1905, to September, 1906, 14·62 inches.

CONVALESCENT HOMES ASSOCIATION.—The second annual meeting of the Convalescent Homes Association was held last week at the office, 32, Sackville-street, London, W., Sir William S. Church being in the chair. The annual report, which was received and adopted, stated that the second annual report of the Convalescent Homes Association presented a record of satisfactory progress. A few years ago it was represented that the needs of the metropolitan hospitals for the convalescent treatment of patients requiring more surgical attention than was generally afforded by convalescent homes were not fully supplied. A few persons well acquainted with the needs of hospitals and conversant with the working of many of the convalescent homes considered that if the hospitals and convalescent homes could be *brought more closely together* a number of beds could, at small additional expense, be made available for these patients without having to expend large sums of money in providing new buildings for their reception. As an outcome of their efforts the present association was established two years ago. This year a number of special surgical beds have become available without any appeal for monetary assistance from the public—viz., 20 beds, ten for men and ten for women—at the Bexhill Homes of the Metropolitan Convalescent Institute, opened in June, 1906; nine at Mrs. Gladstone's home for men and boys; six at the Baroness de Hirsch's home for the Jews, in July, 1906, together with some previously opened. In face of the alleged urgent need for further provision for convalescents recovering from operations it is a striking fact that these new surgical beds are not yet fully occupied. One reason may perhaps be that very few of them are free and that the hospital Samaritan funds are not able to support the expense. At the same time, it is believed that were the matter more widely known to the medical profession as well as to the public there would be no lack of applicants for the beds. During the year a list of "frequent inmates and undesirables" had been compiled for private circulation among members. There had been an increasing number of applications for information from the public, and though these were still few it is hoped that when more widely known the association will increase its sphere of usefulness. The membership of the Convalescent Homes Association now includes six hospitals and 16 convalescent institutions, representing 19 homes.

THE MACCABÆANS.—A medical dinner was given by "The Maccabæans" on May 22nd at the Wharncliffe Rooms, Hotel Great Central, London, Dr. Bertram L. Abrahams being in the chair. The list of guests included Professor T. Clifford Allbutt, Dr. W. H. Allchin, Sir William S. Church, Sir Anderson Critchett, Mr. F. S. Eve, Dr. F. de Havilland Hall, Surgeon-General Sir Alfred H. Keogh, Dr. Donald MacAlister, Professor Howard Marsh, Mr. Henry Morris, Sir Shirley F. Murphy, Sir Richard Douglas Powell, Mr. C. Stonham, Dr. James Taylor, Sir Frederick Treves, Sir John Batty Tuke, and Sir John Tweedy. The toast of the evening, "The Medical Profession," was proposed by the chairman, who stated that he had sent a telegram to Lord Lister, communicating to him the respectful salutation of the Society of Maccabæans, to which Lord Lister replied with a telegram of thanks. The chairman described the aims and objects of the Maccabæans, a society of Jews who follow professional pursuits, which had its origin in Mr. Zangwill's "Bachelors' Club," but which has developed into an important social organisation. He said that the reason for the dinner was the obvious one of desiring to honour medicine, a science to which every guest present had contributed. Sir R. Douglas Powell, in replying, said he was convinced that when the report of the Royal Commission on Vivisection now sitting was issued it would clear away the false ideas and refute the misstatements which had been long current in regard to the humanity of medical men. Mr. Morris, who also replied, gave some interesting details concerning the code of Hammurabi which dated back to 2150 B.C. This code regulated the fees paid to surgeons and ordained that should a patient die after an operation the surgeon should have both his hands cut off. After Sir J. Batty Tuke had also acknowledged the toast, the President of the Maccabæans, Mr. M. H. Spielmann, the well-known art critic, proposed the toast of "The Guests" in a brilliant speech crowded with happy allusions and humorous citations. This toast was acknowledged by Sir Frederick Treves, who thought that surgical measures should be taken for the extinction of after-dinner speakers; by Sir Alfred Keogh, who showed how much the Army Medical Service and all our public services owe to the teachers of medicine and regretted the absence of any recognition on the part of the public of that debt; and Dr. MacAlister, who referred in a brief but interesting speech to the discovery in Palestine of the remains of the palace of Simon Maccabæus. Sir John Tweedy, in submitting the toast of "The Chairman," said that Dr. Abrahams had been one of his pupils, whose successful career he had watched with great interest. After the chairman had made a suitable reply the proceedings concluded.

CONFERENCE OF CHARITY ORGANISATION SOCIETIES.—From July 3rd to 6th inclusive there will be held at the Thatched Assembly Rooms, All Saints' Green, Norwich, a conference of charity organisation societies. In the evening of June 3rd a reception will be held and the real work of the congress will commence on June 4th. A paper on Provident Medical Associations will be read. A discussion on this subject will be opened by Dr. Michael Beverley (Norwich). In the evening there will be a public meeting to discuss the subject of Skilled Employment Committees. On the morning of June 5th the Lord Bishop of Norwich will preside at a public meeting at which "The Work of the School of Sociology" will be discussed and in the evening Dr. W. B. Knobel, honorary secretary of the Malvern Charity Organisation Society, will read a paper on "Preventive Measures and Home Treatment for Consumption." Dr. F. W. Burton-Fanning will open the discussion. A private meeting will be held on the morning of June 6th, the subject of discussion by delegates being "Thrift Work in the Past Year." Various excursions and social arrangements have been organised for the entertainment of visitors during the Congress and a visit will be made to Kelling Sanatorium on the afternoon of June 5th. Full particulars can be obtained at the rooms in which the conference will be held.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Whitsuntide Holidays.

BOTH Houses of Parliament adjourned on Thursday, May 16th, for the Whitsuntide recess. The House of Commons has taken a short holiday, reassembling on Thursday, May 23rd. The holidays of the House of Lords extend to Tuesday, May 28th.

Medical and Dental Companies.

The Select Committee of the House of Lords which is to take evidence on the subjects dealt with in the Prohibition of Medical Practice by Companies Bill and the Dental Companies (Restrictions of Practice) Bill has now been nominated. The five peers who will compose the committee are Viscount FALKLAND, Viscount KNUTSFORD, Lord HYLTON, Lord LUDLOW, and Lord COLEBROOK. They are to appoint their own chairman.

The Royal College of Physicians of London and the Plague.

On the motion of Dr. RUTHERFORD a return has been granted of the Memorandum of the Royal College of Physicians of London in May, 1905, on plague.

The Public Health Bill.

The Public Health Bill has been read a second time in the House of Commons. It was allowed to pass this stage at the time of unopposed business.

Notification of Births in Glasgow.

A Select Committee of the House of Lords, over which the Earl of CAMPERDOWN presided, has just passed certain clauses in the Glasgow Corporation Bill, which provide for the notification of births in that city in a manner somewhat similar to that which prevails in Huddersfield. The provision in the Glasgow Bill lays down the principle of notification of births within 48 hours of their occurrence. Dr. A. K. CHALMERS, the medical officer of the city, supported the clause in the evidence which he tendered to the committee on the ground that they would assist in checking the high rate of infantile mortality prevalent in Glasgow. The provisions, he mentioned, would be in force for five years only. The CHAIRMAN put the question to him whether the period of notification could not be extended to three days without impairing the utility of the proposal. Dr. CHALMERS replied that he would prefer the notification within 48 hours, as such a provision would better assist in coping with the problem of infantile mortality.

Accordingly the committee left the period of notification at 48 hours. The Bill, which deals with a variety of subjects, has still to pass through all its stages in the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, MAY 15TH.

The Mortality from the Plague.

Dr. RUTHERFORD asked the Secretary of State for India the number of deaths from plague in India during April, 1907, and the total number from September, 1896.—Mr. MORLEY replied: The figures are for April, 1907, deaths from plague 314,000; from September, 1896, to end of April, 1907, 5,326,000 approximately.

The Board of Education and a Medical Department.

Mr. WEDGWOOD asked the President of the Board of Education what immediate steps he proposed to take with a view to obtaining expert opinion as to the advisability of establishing a permanent medical department at the Board of Education, seeing that this matter was not considered by the Inter-Departmental Committee on Medical Inspection two years ago and seeing that no information concerning any other expert advice was available for consideration by this House.—Mr. MCKENNA answered: I can assure my honourable friend that experts have not failed to give me the great advantage of their advice upon this question. The opinions which I have received from them are by no means wanting in variety.

The Payment of Vaccination Officers.

Sir WILLIAM BULL asked the President of the Local Government Board whether he would make provision by a vaccination order for the payment of a fee to the vaccination officer for registering the certificates proposed in his Bill or abolish the payments by fee to the vaccination officer and provide for him to receive a fixed income based upon his average income for the five years previous to the Bill becoming law.—Mr. JOHN BURNS furnished the following written answer: I am not aware of any sufficient reason for adopting the course suggested.

The Construction of Poor-law Infirmaries.

Sir WILLIAM BULL asked the President of the Local Government Board whether the Board some years ago issued a code of suggestions and instructions for the guidance of boards of guardians as to the mode of constructing workhouses and infirmaries for Poor-law purposes; what was the date of the last edition of the code; and whether, in that code or in any other official publication, any suggestions had been issued for the guidance of guardians as to the best mode of equipping these institutions with electricity for lighting and power purposes.—Mr. JOHN BURNS replied (by written answer): The Board some years ago issued a memorandum as to the points to be attended to in the construction of workhouse buildings, and extracts from it with certain alterations have continued to be issued. The last material alterations were made in 1897. A memorandum on the construction of Poor-law infirmaries was issued in October last. The answer to the last part of the question is in the negative.

THURSDAY, MAY 16TH.

The Medical Inspection of Schools.

Mr. G. H. ROBERTS, on behalf of Mr. RAMSAY MACDONALD, asked the President of the Board of Education whether his attention had been called to the evidence given before the Departmental Committee on the medical inspection of school children, showing that the existing methods of inspection, as conducted by the local educational authorities in England, lacked uniformity and coördination, and were in many instances of little value; and whether he proposed to issue, for the guidance of these authorities and their inspectors, a memorandum of suggestions and make a request for annual reports under certain specific headings to test the adequacy of the inspection.—Mr. MCKENNA replied: I think there can be no doubt that when the Administrative Provisions Bill becomes law some guidance and advice from the Board of Education as to the methods of inspection and the classification of results will be necessary. How to secure the maximum of advantage from a general system of medical inspection consistently with securing the smooth working of the scheme and the coöperation of the local authorities is a matter which requires, and is receiving, careful consideration; but I am not yet in a position to make any statement.

The Medical Advisers to the Board of Education.

Mr. ROBERTS further, on behalf of Mr. MACDONALD, asked the President of the Board of Education in what capacity the two medical men were attached to the Board of Education; and whether he proposed to assign to them definite medical duties and to make them directly responsible to himself and not to the permanent head of the department.—Mr. MCKENNA answered: The two officers in question hold the post of His Majesty's Inspector of Schools and it is mainly on their advice that the Board acts in dealing with schools for afflicted children and other matters where technical medical knowledge is especially necessary. I see no reason for introducing such an innovation in the organisation of a Government department as my honourable friend suggests in the last paragraph of his question.

Public Abattoirs in Scotland.

Mr. WATT asked the Secretary for Scotland whether his attention had been called to the unanimous recommendation of the Convention of Royal Burghs of Scotland that private slaughter-houses should be abolished and public abattoirs substituted, and whether he would take steps, in view of that recommendation, to carry out the suggestion.—Mr. SHAW (who answered for Mr. SINCLAIR) said: When the inquiry in progress is completed the recommendation referred to by my honourable friend will receive careful consideration.

The Inspection of Irish Pork.

Mr. WATT asked the Secretary for Scotland whether he would see that all carcasses of swine slaughtered in Ireland for export to Scotland were inspected in accordance with the recommendation of the Local Government Board—namely, that the presence of tuberculous deposit in any degree should involve seizure of the whole carcass and organs; and, if the carcasses and organs could not be inspected by competent inspectors in Ireland, whether he would take steps to prevent the flesh being sold in Scotland for human food.—Mr. SHAW (the Lord Advocate) answered: With regard to the first part of my honourable friend's question I must ask him to apply to the Chief Secretary for Ireland. With regard to the second part it is not proposed to alter the system established by the Public Health Act, 1897.

Seizures of Meat in Glasgow.

Mr. WATT asked the Secretary for Scotland whether his attention had been called to the fact that on Feb. 18th and 20th last forelegs of chilled beef were seized in Glasgow Meat Market on the stance of the agent of one of the largest meat exporters in the United States; that these forelegs were stamped U.S. Inspected and passed; that they showed tuberculous nodules and on incision glandular invasion; and whether he would say what steps the Local Government Board had taken to prevent importation of meat in such condition into Scotland. —Mr. SHAW replied: I have received no official information with regard to the facts mentioned by my honourable friend. The Local Government Board for Scotland has no power to prevent the importation of meat from any country. The present system of inspection authorised by Section 43 of the Public Health Act, 1897, is, if properly administered, sufficient to protect the consumer of foreign meat, as is shown by the seizure of the meat in the case referred to.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

BECK, E. A. A., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Bromyard District of the county of Hereford.

CHARLES, HERBERT, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Anæsthetist to the Middlesex Hospital.

CLEARY, M., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Newport District of the county of Mayo.

DOLAMORE, W. H., M.R.C.S., L.R.C.P., L.D.S. Eng., has been appointed Lecturer on Operative Dental Surgery at the Royal Dental Hospital of London, Leicester-square, W.C.

FINDLAY, W. D., M.B., C.M. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Middleton District of the county of Lancaster.

GELLATLY, ANDREW, M.B., C.M. Edin., has been appointed Medical Officer of Health of Droylsden, Manchester.

HARRIS, JOHN HENRY, M.D. Durh., M.R.C.S., L.S.A., D.P.H. Camb., has been reappointed Medical Officer of Health for the Dartmouth and Totnes Port Sanitary Authority.

HIBBERT, J. COOTE, M.D. Lond., D.P.H., has been appointed Medical Officer of Health of the Borough of Warrington.

LOGAN, W. A., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

STANTON, A. T., M.D. Toronto, M.R.C.S., L.R.C.P. Lond., has been appointed Second Assistant at the Kuala Lumpur Laboratory, Straits Settlements.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ALNWICK INFIRMARY.—House Surgeon, unmarried. Salary £140 per annum, with apartments, attendance, &c.

BETHLEM HOSPITAL.—Two Resident House Physicians (unmarried) for six months. Salary £50, with apartments, board, and washing.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Honorarium at rate of 52 guineas per annum.

BIRMINGHAM, UNIVERSITY OF.—Lectureship in Dental Histology and Pathology.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Assistant Resident Medical Officer for three months. Honorarium of 25 guineas, with board and washing.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Physician for six months. Salary £30, with board, residence, and laundry.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 a year, with board, apartments, and laundress.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Resident Medical Officer. Salary £120 per annum, with board, &c. Also Surgeon and Physician to the Out-patients.

COLCHESTER, ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, and residence.

Devonport, Royal Albert Hospital.—Resident Medical Officer. Salary £100 per annum, with apartments, board, &c.

Dumfries and Galloway Royal Infirmary.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

Egypt.—Sub-Inspector of Ophthalmic Hospitals, unmarried. Salary £500 a year.

French Hospital, 172, Shaftesbury-avenue, London.—Second Resident Medical Officer. Salary £50.

Great Yarmouth Hospital.—House Surgeon. Salary £90 per annum, with board, lodging, and washing.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence. Also Anæsthetist.

Hull, Royal Infirmary.—Honorary Assistant Surgeon to Out-patients.

Ipswich, East Suffolk and Ipswich Hospital.—Third House Surgeon. Salary £50 per annum, with board, attendance, and washing.

Leeds In-door Institutions, Beckett-street—Assistant Medical Officer. Salary £100 per annum, with board, washing, apartments, and attendance.

Liscard, near Liverpool, Victoria Central Hospital.—Honorary Aurist and Laryngologist.

Liverpool Stanley Hospital.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

London Temperance Hospital, Hampstead-road, N.W.—Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing.

Maidstone, West Kent General Hospital.—Assistant House Surgeon and Anæsthetist, unmarried. Salary £60, with board, lodging, and washing.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £60 per annum, with board and residence.

Manchester Eye and Ear *Hospital*, 25, St. John-street.—Honorary Assistant Aural Surgeon.

Middlesbrough, North Ormesby *Hospital*.—House Surgeon. Salary £120, with apartments and board.

Newcastle-upon-Tyne, City and County *of*.—*Assistant Medical* Officer of Health and Resident Medical Officer of the City Hospital for Infectious Diseases, unmarried. Salary £300 per annum, with board, lodging, &c.

Newcastle-on-Tyne Dispensary.—Visiting Medical Assistant. Salary £160.

Newport and Monmouthshire *Hospital*.—Junior Resident Medical *Officer*. Salary *£70* per annum, with board, residence, and laundry.

Queen *Adelaide's Dispensary*, Pollard-row, Bethnal Green-road, E.—Honorary Surgeon.

Rochdale Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

Royal Ear Hospital, Dean-street, Soho, W.—House Surgeon for six months. Salary at rate of £40 per annum.

Saint Leonard, Shoreditch, Infirmary, 204, Hoxton-street, N.—Second Assistant Medical Officer. Salary £100 per annum, with rations, washing, and apartments.

St. Bartholomew's Hospital.—Lectureship in Anatomy.

St. Thomas's Hospital.—Assistant Physician.

Throat Hospital, Golden-square, W.—House Surgeon. Salary at rate of £75 per annum, with residence, board, and laundry.

Walsall *and District Hospital*.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

West Bromwich District Hospital.—*Resident Assistant House* Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing. Also Senior House *Surgeon, unmarried*. Salary £110 per annum, with board, residence, and washing.

West Ham Hospital, Stratford, E.—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, &c.

West London *Hospital*, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry allowance provided.

Worcester General Infirmary.—House Physician. Salary £80 per annum, with board and residence.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Wolston, in the county of Warwick; at Duleek, in the county of Meath; at Stornoway, in the county of Ross; at Stafford, in the *county of Stafford*; at Grantham, in the county of Lincoln; and at Tenbury, in the county of Worcester.

Births, Marriages, and Deaths.

BIRTHS.

Hinds.—On May 20th, at Bridge House, Bexley, Kent, the wife of Thomas W. Hinds, M.D., of a daughter.

Low.—On May 20th, at 146, Harley-street, W., the wife of V. Warren Low, M.D., B.S., F.R.C.S., of a son.

DEATHS.

Armstrong.—On May 10th, at Weston-super-Mare, Surgeon-Major Lancelot Armstrong, late Army Medical Staff, aged 77 years.

Fayrer.—On May 21st, at Falmouth, Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I., LL.D., M.D., F.R.S., K.H.P., Physician Extraordinary to the King, in his 83rd year.

Owen.—On 15th inst., of post influenzal disease of the heart, Annie Laura, wife of Edmund Owen, F.R.C.S., in her 45th year. (Cremated at Golder's Green 21st inst.)

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE ART OF ADVERTISING.

Commissions, otherwise known as "palm oil" or "graft," are not unknown in this country as the recent example of West Ham shows. But our brothers in blood on the other side of the Atlantic are certainly far ahead of us in their outspoken version of the *proverb*, "You scratch my back and I'll scratch yours." We have received an affectionate epistle from the Ambulatory Pneumatic Splint Mfg. Co. of Chicago commencing, "My dear Doctor" and setting forth in simple language the advantages which we may expect if we do as the Co. desires us. The circular continues:—

> It is a privilege both to yourself and your patient, when you have a case to which this splint is suited, to tell such patient frankly that it is *his duty to himself* in order that you may get the best results for him, that he should take your recommendation of it and buy one, *through you*, for your use in his case: explaining to him, that we sell it only to the attending physician, who in most instances, of course, requires the patient to advance the cash necessary to procure it.
>
> There is nothing in the book that you can't show him. The photographs will arouse his interest and induce him to willingly purchase the splint for his own use and benefit.
>
> You may charge the patient the prices that are quoted in the book, if you require him to make a purchase. We make the prices the same to you as though you were buying it for your own use and herein name our physician's prices.

The physician's prices, we note, on reference to the book, are for the splint with the shoe 34 dollars instead of 40, with varying reductions on "extra parts." The most delightful portion of the circular is the following:—

> In many instances the patient buys the splint; when he is well, as he scarcely ever hopes for a future use of it, he donates the splint to his physician, in excess of paying his doctor's bill, if he is of a liberal and grateful turn.
>
> On the other hand, many surgeons purchase the splint on their own account and hold and rent it to respective patients, who require its use. This, however, is a matter between you and the patient.

Obviously, when the grateful patient has "donated" the splint to his physician, the physician can rent it to another patient and so make a bit more. And what is this wonderful splint? So far as we can understand from the book it is simply the well-known Thomas's splint, with an inflatable ring at the top and with the side rods made capable of extension. There are four rods instead of two, or perhaps we should say eight rods, for they slide on one another in the fashion of a trombone slide. Thus extension can be made. Whatever may happen in America, we do not think that the Ambulatory Pneumatic Splint Mfg. Co. will get many orders here, for although the splint is probably a good one the method of recommending it is most unsatisfactory.

"LEONARD DE BAYER."

To the Editors of The Lancet.

Sirs,—I beg to inform you that I hold a warrant for the arrest *of this* man on a charge of obtaining money by false pretences on the 12th ultimo. He falsely represented that he was principal of the Bayer Co., Ltd., and obtained £21 from a man in Liverpool whom he appointed as his local agent. His description is as *follows*: about 36 years of age, about 5 feet 6 inches in height, slight build, fair hair, slight moustache, very prominent teeth, stoops slightly, walks badly, wears gold-rimmed eye-glasses; dresses in a frock coat and a silk hat. He is in the habit of calling at hospitals and upon medical men at their private addresses and, under the pretence of being connected with the firm mentioned, borrowing money which he does not pay back. He has already undergone a sentence of three years' penal servitude for obtaining money by false pretences. He has now left Liverpool but I hear that he is acting in a similar manner *in other towns*. I am very anxious to have him arrested, and my object in writing to you is to ask if you would kindly have a notice published in The Lancet requesting any medical man upon whom De Bayer may call to communicate with the nearest police station at *once, where the officer in* charge, by referring to case No. 36 in the *Police Gazette* of the 17th instant, can find a photograph of the accused *for identification*.

I am, Sirs, yours faithfully,

Francis Caldwell, Assistant Head Constable.

Central Police Office, Liverpool, W., May 21st, 1907.

THE DUTIES OF OPHTHALMIC OPTICIANS.

"The legitimate work of an ophthalmic optician is to make lenses for the *correction of ocular defects* according to any *formula* prescribed by a surgeon, and to set those lenses into a frame in such a manner as to insure the result intended by the surgeon." This statement merits the approbation of the medical profession. It is quoted from a pamphlet on "Comfort in Eyeglasses," issued by Messrs. Cary, Porter, Limited, Optical and Mathematical Instrument Makers. In these days when prescribing opticians are as numerous as the leaves in Vallombrosa the confession of faith would have been improved and its value intensified by the addition of the negative proposition that it is the duty of opticians to abstain from prescribing spectacles for their customers. In the covering letter which accompanied the pamphlet the firm add: "We do not attempt the prescribing of lenses, but devote our whole time and attention to the carrying out of oculists' prescriptions, and the careful fitting of spectacle and eyeglass frames." We regret that this sentence was not included in the text of the booklet, which is clearly intended for distribution amongst the general public.

The special feature to which Messrs. Cary draw attention is a patent machine for performing the dual operation of (1) céntring a lens, and (2) cutting it out to the desired shape and size. The instrument appears admirably adapted to insure accuracy in these important details. Illustrations are given of the deleterious effects of wrongly centred glasses. It is scarcely possible to lay too much stress upon the necessity for extreme accuracy in the adjustment of spectacle lenses. Though the surgeon's prescription may be correct all the benefits reasonably to be expected from the use of the glasses may be abolished by faulty workmanship; or still worse, the ocular defect may be aggravated.

It is our wish to support those honourable members of the trade who, recognising their own limitations, confine themselves to providing glasses with the greatest possible accuracy according to the surgeon's prescription. On the other hand, we have no desire to draw any invidious distinction between the individual firms of non-prescribing opticians. We shall therefore be pleased to publish a list of opticians who *guarantee* to work *only* from surgeons' prescriptions.

A NEGLECTED TEXT.

To the Editors of THE LANCET.

SIRS,—Your correspondent, "M.D.," who quotes Judges ix. 12, 13, R.V., which in the A.V. is, "Then said the trees unto the vine, Come thou, and reign over us. And the vine said unto them, Should I leave my wine, *which cheereth God and man*, and go to be promoted over the trees?" evidently thinks he has settled the question of the use of wine or intoxicating liquor in moderation by this quotation from the parable of Jotham, but a close investigation of its origin will be seen to prove the contrary to what he imagines, and it is only fair to undeceive him.

It is obvious that because a remark is found in the Bible it is not therefore hall-marked as the thought of God Himself. Even the words of Satan, or the Devil, let alone ordinary men, are found in the Bible. See Job i. and Matthew iv. Who was Jotham? He was Gideon's youngest son, who escaped from being slain by Abimelech. That he was no prophet of the Lord is seen from his name in English. What does Jotham mean? In the Hebrew "Yah is Perfect," but what in English? Jotham can be split into two words "jot" and "ham." "Jot" is the smallest letter in the Greek, a dot or point, literally, a spot. "Ham" is the thigh of a hog salted and dried in smoke, and a hog, according to the Jewish law, was an unclean animal. "Ham" then is a concrete expression for what is "unclean." So Jot-ham means "spot that is unclean," and an unclean spot is the particular for *dirt*. This quotation then from the parable of Jotham, or personified *dirt*, one of the "spots" alluded to in II. Peter, ii., 13, only proves that it is physically, intellectually, morally, and spiritually of a like nature, or, in other words, an unclean and filthy perversion of the truth.

When we read Judges ix., 21, that after uttering this parable, "Jotham ran away, and fled, and went to Beer, and dwelt there ......" we are not surprised, for it is where everyone, figuratively speaking, goes who believes his words are true. They go to Beer because they take to beer as a drink, and to go to Beer is to go to *be-err* and not to be or to know truth or

SOBERNESS.

*** Our correspondent "M.D." made no allusion to the value of the text as an argument; he quoted it merely to wonder why no one had employed it as an argument, seeing how frequently other and less apt texts are employed Does "Soberness" in the circumstances think he is quite polite? Do our readers think "Soberness" is quite sane? Do the advocates of total prohibition of the sale of alcohol find him a valuable champion? We publish the letter in the faint hope that some disputants may learn the kind of thing which impedes honest argument about a question of supreme importance.—ED. L.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Westminster Gazette, Standard, Daily Chronicle, Edinburgh Dispatch, Morning Post, Daily News, Evening News, Yorkshire Observer, Optician, Glasgow News, Nottingham Evening News, Morning Advertiser, Glasgow Evening Times, Hudders-field Examiner, Nottingham Express, Aberdeen Daily Journal, Sunderland Echo, Manchester Dispatch, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 23rd, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 17	30 16	N.	...	113	56	46	43	49	Cloudy
" 18	30·20	N.	...	102	55	40	41	46	Cloudy
" 19	30 13	N.	...	96	50	38	41	45	Cloudy
" 20	30 02	N.E.	0·01	97	51	39	42	46	Cloudy
" 21	29 81	E.	0·11	96	54	42	43	47	Cloudy
" 22	29 72	S.W.	...	73	59	45	46	50	Cloudy
" 23	29 67	S.	0·16	89	65	50	55	56	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.). Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (1st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (27th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street Cavendish-square, W.).—8.30 P.M.: Annual Conversazione. 9 P.M.: Oration:—Dr. G. A. Gibson (Edinburgh): The Cause of the Heart Beat.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M.: Council Meeting. 8 P.M.: Casual Communication:—Mr. W. S. Handley: Lymphoid Degeneration of Salivary Glands. Paper:—Mr. J. H. Badcock: Interim Notes on Orthodontia. (The communication and paper will be illustrated by means of the epidiascope.)

TUESDAY (28th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Sir William R. Gowers: A Case of Cervical Myelopathic Trichosis.—Major M. P. Holt, R.A.M.C.: Ligature of the Renal Vessels for the Cure of Persistent Urinary Renal Fistula, with One Successful Case. (With epidiascope demonstration.)

THURSDAY (30th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—5.30 P.M.: General Meeting. Election of Officers for the ensuing year. 6 P.M.: Address:—Dr. N. Moore: Air, Water, and Situation. 7.30 P.M.: Annual Dinner at the Trocadéro Restaurant, Piccadilly-circus, followed by an Entertainment.

FRIDAY (31st).—Epidemiological Society (11, Chandos-street, Cavendish-square, W.).—8.30 p.m.: Papers:—Prof. A. Holst (Christiana University): Studies concerning Ship Beri-beri.—Prof. Holst and Dr. T. Frolich (Christiana University): Polyneuritis in Poultry (Polyneuritis Gallinarum Eijkman) and Scurvy in Guinea-pigs.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (27th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: Mr. G. Pernet: Clinique. (Skin.) 5.15 p.m.: Lecture:—Dr. J. M. H. MacLeod: Infantile Eczema, its Management and Treatment.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—9.30 a.m.: Surgical Out-patient (Mr. H. Evans). 2.30 p.m.: Medical Out-patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 p.m.: Sir Dyce Duckworth: Medicine. 2.30 p.m.: Operations. 3.15 p.m.: Mr. W. Turner: Surgery. 4 p.m.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 12 noon: Ear and Throat. 4 p.m.: Special Lecture:—Dr. StClair Thomson: Surgical Anatomy of the Nose and its Accessory Cavities.

TUESDAY (28th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: Dr. G. A. Sutherland: Clinique. (Medical.) 5.15 p.m.: Lecture:—Dr. F. J. McCann: The Treatment of Gonorrhœal Infection in the Female.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 a.m.: Medical Out-patient (Dr. Auld). 2.30 p.m.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 p.m.: Dr. R. T. Hewlett: Medicine. 2.30 p.m.: Operations. 3.15 p.m.: Mr. Carless: Surgery. 4 p.m.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 12 noon: Skin.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 p.m.: Demonstration:—Dr. Atkinson: External Ear.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 p.m.: Clinical Lecture:—Dr. J. Taylor: Clinical Cases.

Royal Institution of Great Britain (Albemarle-street, W.).—3 p.m.: Prof. G. H. F. Nuttall: Malaria, Sleeping Sickness, Tick Fever, and Allied Diseases.

WEDNESDAY (29th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: Mr. J. Cantlie: Clinique. (Surgical.) 5.15 p.m.: Lecture:—Dr. P. Stewart: The *Diagnosis of* Disseminated Sclerosis.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 p.m.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 p.m.: Dr. F. Taylor: Medicine. 2.30 p.m.: Operations. 3.30 p.m.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 11 a.m.: Eye.

University College (London) Medical Society (University College, Gower-street, W.C.).—8.30 p.m.: Paper:—Mr. W. Bateson: The Study of Heredity.

Asylum Workers' Association (11, Chandos-street, Cavendish-square, W.).—4 p.m.: Meeting.

Royal Sanitary Institute (Parkes Museum, Margaret-street, W.).—8 p.m.: Discussion on Suggested Amendments of the L.C.C. By-Laws as to Drainage (opened by Dr. L. C. Parkes, Mr. J. P. Barber, and Mr. I. Young).

THURSDAY (30th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 p.m.: Lecture:—Dr. F. M. Sandwith: Cerebro spinal Fever.

North-East London Post-Graduate College (*Prince of Wales's* General Hospital, Tottenham, N.).—2.30 p.m.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 p.m.: Medical In-patient (Dr. Chappel). 4.30 p.m.: Special Demonstration on Medical Cases (Dr. Whiting).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.30 p.m.: Operations. 2.30 p.m.: Dr. G. Rankin: Medicine. 3.15 p.m.: Sir W. Bennett: Surgery. 4 p.m.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 12 noon: Ear and Throat.

Charing Cross Hospital.—4 p.m.: Dr. Murray: Demonstration (Medical). (Post-Graduate Course.)

University of Birmingham, Faculty of Medicine (Medical Lecture Theatre).—4 p.m.: Post-Graduate Lecture:—Dr. O. J. Lewis: The Bacteriological Diagnosis of Diphtheria.

Royal Institute of Public Health (37, Russell-square, W.C.).—5 p.m.: Special Lecture:—Prof. R. T. Hewlett: The Problem of the Pure Milk Supply.

Royal Institution of Great Britain (Albemarle-street, W.).—3 p.m.: Lecture:—Prof. Sir James Dewar: Chemical Progress—Work of Berthelot, Mendeleeff, and Moissan.

FRIDAY (31st).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: Dr. J. Horne: Clinique. (Throat.)

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—9.30 a.m.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 p.m.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 p.m.: Medical In-patient (Dr. Leslie).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 p.m.: Dr. R. Bradford: Medicine. 2.30 p.m.: Operations. 3.15 p.m.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 12 noon: Skin. 3.15 p.m.: Special Lecture:—Dr. R. Bradford: Hemiplegia.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 p.m.: Clinical Lecture:—Dr. J. Taylor: Sclerotic Diseases of Cord.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 p.m.: Demonstration: Dr. D. McKenzie: Thyroid and Cervical Region.

SATURDAY (25th).—London School of Clinical Medicine (Dreadnought Hospital, Greenwich.)—2.30 p.m.: Operations. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 11 a.m.: Eye.

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A Clinical Lecture

ON

PUNCTURED FRACTURES OF THE BASE OF THE SKULL.

Delivered at the Leeds General Infirmary,

By R. LAWFORD KNAGGS, M.C. Cantab.,

SURGEON TO THE INFIRMARY.

Gentlemen,—I wish to speak to you to-day about certain fractures of the skull which possess features of great interest. Fractures of the base are of three kinds: (*a*) fissures, the causation of which is still a ground of controversy; (*b*) comminuted fractures resulting from direct and great violence and which may be depressed; and (*c*) punctured fractures. The first variety is common, the second much less so, and the third is probably very infrequent, notwithstanding statements to the contrary, and when met with is usually unexpected. Though punctured fractures of the base have received but scant attention in surgical text-books they constitute a group which presents very marked peculiarities. These are of such importance that they justify the consideration of the group apart from similar injuries of the vertex upon which text-book accounts are usually based.

The rarity of these fractures is perhaps remarkable, for the configuration and structure of the base of the skull are such that penetrating wounds can easily be produced. But though the more vulnerable parts are sufficiently accessible to long, slender, and pointed objects, yet you will notice that they are most in danger when attacked from the front or the sides and there can be little doubt that the reason injuries of this nature are not more frequently met with is because the on-coming violence can be seen and, almost instinctively, avoided or minimised.

Anatomy.—If the base of the skull be examined it will be seen that the thin orbital plates and the brittle cribriform plate of the ethmoid can easily be pierced by a pointed instrument directed either through the orbit or the nose. It is possible, even without injury to the bone, for penetration of the middle fossa to occur through the anterior lacerated foramina along an orbital track, and a piece of tobacco pipe has been found in the cavernous sinus which had reached its destination in this way.[1] The floor of the middle fossa is much thicker than the orbital plates of the frontal bone but is still sufficiently thin to transmit light in most instances through the hollows that mark the points of pressure of the convolutions. The bone in this situation can easily be reached through the zygomatic fossa, the instrument entering through the cheek and perhaps passing between the jaws. A moderate amount of force would easily cause it to give way. The zygomatic arch forms quite a trap, and a pointed rod once pushed within it would, if the force were sufficient, almost certainly penetrate the skull. It might be directed against the base in the temporal fossa or the zygomatic fossa, or with a different inclination penetrate the anterior fossa after traversing the orbit. To the latter it could obtain access either by crashing through its outer bony wall or by hitting off the spheno-maxillary fissure. Next the buttress in the middle line formed by the body of the sphenoid is hollowed out into the sphenoidal sinuses and is really very thin. It would offer no serious obstacle to penetration, but it could only be assailed through the buccal or naso-pharyngeal cavities. The walls of the posterior fossa are, in the main, much stronger, but the thinner and often translucent parts upon which the lateral lobes of the cerebellum lie are protected by a mass of muscular insertions. This weak point has been penetrated from the mouth, the track passing between the transverse process of the atlas and the occiput. It would seem almost a necessity for such an injury to occur that the head should be placed in a condition of extreme extension upon the spine, and from the nature of the accident this was most likely to have been the case.

In this description the specially vulnerable portions of the base have been enumerated—the places where penetration can be and occasionally is produced by a comparatively slight amount of force. But no part of the base is exempt from the possibility of a penetrating fracture, provided it can be reached by a weapon sufficiently strong and under the influence of a force sufficiently great.

Three cases of punctured fracture of the base have come under my care in the infirmary and if I now describe them in some detail it is because each case has a special interest of its own and as a group they illustrate in a marked degree the peculiarities and the danger of this form of injury.

Case 1. *Penetrating wound of the orbit; fracture of the left orbital plate of the frontal bone; slate pencil imbedded and overlooked; septicæmia (?); death.*—A girl, aged four years, was returning from school on Feb. 19th, 1904, with a slate pencil in her hand when she fell and wounded herself with it. She walked home and was taken to see Mr. H. Bailey of Horsforth the same afternoon, who gave chloroform and felt a portion of the pencil deeply placed in the orbit. He then directed the friends to take the child to the infirmary at once, and having received a very urgent call to another case at that moment he sent a verbal message by the mother. The child reached the infirmary about 9 P.M. and was carefully examined by a resident officer of proved capacity. The pencil was not detected and the patient was allowed to go home. It is needless to add that the message, as it was delivered, tended to mislead rather than to help. On the 20th the child vomited several times and towards evening became delirious. In the night Mr. Bailey found the temperature 104° F. On the next morning she was admitted. The temperature was then 104·6°, the pulse was 160, and the respirations were 52. She wandered in her talk and did not take in anything that was said to her. She was continually throwing her limbs about, but there were no convulsions, no paralysis, no rigidity of the limbs, and no retraction of the head and neck. The lids of the left eye were infiltrated with blood and much swollen and there was chemosis. With difficulty it was seen that the eye was depressed and it was subsequently ascertained that the child had had double vision after the accident. There was a small wound *above* the orbital margin and under an anæsthetic it was thought one end of the pencil could be felt through the swollen and tense upper lid. An incision through the lid enabled the pencil to be grasped with forceps, but it was so firmly fixed in the bone that it required a good pull to draw it out. A flap was next turned down from the forehead and the anterior fossa explored through a trephine aperture above the orbital ridge. The position of the supposed fracture was too far back to be exposed, but a searcher, passed over the part where it would be, detected no fragments of bone. It was also passed between the periosteum and the roof of the orbit without gaining further information. Finally, the flap was replaced and a drainage-tube passed along the track of the slate pencil through the incision made for its extraction. The pencil, which was about one and a half inches long, had entered by the wound *above* the eyebrow. The operation had no effect upon the symptoms and death took place at 6 P.M. on Feb. 21st.

At the necropsy no adequate cause of death was found. There was a small fracture—almost a fissure—of the left orbital plate of the frontal bone. It was half an inch long and was a quarter of an inch in front of the foramen lacerum anticum. Its edges were very slightly raised towards the brain. The dura mater had not been penetrated and there was a little blood adherent to it over the seat of the fracture. There was no meningitis. (Specimen A 12c, University of Leeds Pathological Museum.)

Case 2. *Penetrating wound of the middle fossa; transfixion of brain.*—A boy, aged 14 years, was running along a workshop with a long iron rod in his hand when he tripped and fell and the rod penetrated his cheek. He pulled it out himself. This happened on Dec. 12th, 1901. The wound was dressed by a medical man who referred him to the infirmary for subsequent treatment. He seemed dazed after the accident. On the next day he presented himself at the casualty department with a septic inflamed wound in the *right* cheek and whilst waiting to be attended to he seemed unable to keep awake. This attracted the attention of the casualty officer and the boy was admitted. Beyond a slight elevation of temperature and marked drowsiness there was an entire absence of symptoms. When roused he would sit up and answer intelligently but in an apathetic way any questions addressed to him and as soon as they were discontinued he would drop down in bed and fall asleep at once. He would feed himself but would go to sleep between the mouthfuls. He would reach his urinal but would fall asleep with it in bed and probably upset it.

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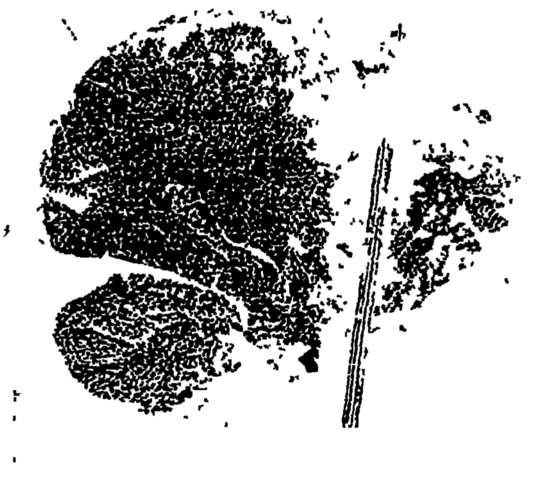
e Eye, second edition, p. 17.

On the 16th the house surgeon asked permission to send him home, as beds were needed. On the 17th he was called to the lad at 9 A.M. because he had had a fit. On his arrival the convulsion had passed off but the patient was unconscious and evidently sinking. The convulsions recurred before death. The final scene only occupied half an hour.

Subsequently it was found that the rod, after penetrating the cheek, had passed inside the zygomatic arch, breaking back, but not detaching, a small fragment of the coronoid process of the mandible. It had then passed through the great wing of the sphenoid one-third of an inch external to the foramen rotundum. The aperture would admit the first phalanx of the little finger and thin plates of bone had been upturned towards the brain almost of the same size as the aperture. These plates of bone are well shown in the macerated specimen (A 12b, University of Leeds Pathological Museum).

The track in the brain began near the apex of the right temporo-sphenoidal lobe and, with an inclination inwards, passed through the posterior part of the frontal lobe and ended on the convexity close to the longitudinal fissure and about two and a half inches behind the frontal pole. The pia arachnoid was lacerated at the point of emergence but the dura mater was not perforated. The lenticular nucleus abutted on the posterior edge of the track and surrounding the latter for half an inch or more the brain tissue was infiltrated with blood and evidently much altered. The lateral ventricle does not appear to have been opened. (Specimen No. 77.)



Specimen No 77, Pathological Museum of the Medical School of the Leeds University From a boy whose brain was transfixed by an iron rod which entered through the cheek He was not brought for treatment for several days and death occurred unexpectedly about a week later.

CASE 3. *Punctured wound of the anterior fossa; operation; cerebral abscess (?); second operation; recovery.*—On June 11th, 1904, a boy, aged 12 months, was left by his mother playing with a long bone crochet hook. On her return she found the child with the handle end of the hook protruding from the inner surface of the upper lip. On admission to the infirmary shortly after Mr. Coupland, the resident medical officer, extracted it. First marking with his finger the point at which it emerged from the lip he found that the end was engaged in bone and caught. Gradually turning it he disengaged the hooked end and withdrew it easily. The part that had penetrated measured three inches and from its direction it must have pierced the orbital plate of the frontal bone Upon these facts I decided to explore. Through an incision along the supra-orbital ridge the roof of the orbit was examined and a fracture detected to the outer side of the middle line and half an inch from the ridge. A frontal flap was then turned down and through a large trephine opening above the ridge the dura mater was lifted up from the floor of the anterior fossa. A small round hole about six millimetres in diameter was seen in the bone and there was a corresponding aperture in the dura mater. A sharp fragment of bone was felt within the dura mater and easily extracted through the opening. It was insufficient to fill the hole in the bone, but no other fragment could be found. The dural aperture was inaccessible to suture. The flap was replaced and a light gauze packing left in in case the crochet hook had infected the parts. At first the progress was satisfactory and the wound slowly healed. A small abscess formed near the inner canthus in the second week and cleared up and there were one or two isolated acts of vomiting, but at the beginning of July the child became gradually torpid and dull and at last unconscious, though still able to swallow. On July 11th optic neuritis was developing in the left disc. On this date a further operation was performed. The trephine opening was exposed and the bulging dura mater slit open. The brain immediately began to protrude and presented a pearly white pulpy appearance. It pulsated freely, but was not at all like healthy brain tissue. The trephine opening was enlarged and the brain protruded until a hernia as big as a plum had formed. This was explored with a glass trocar which was pushed towards the part injured by the crochet hook, but nothing escaped. The flap was replaced over the hernia and held in position by two or three sutures. After this operation the child began to improve and to take notice of things and to behave like an ordinary baby. There was no more vomiting but the hernia increased. Some œdema developed in the left temporal region and the ends of the flap incision were separated by forceps and some sero-pus escaped. On the 14th a considerable amount of rather offensive pus escaped and next morning the hernia underneath the flap had very markedly subsided. From this date all went well and by August 7th there was no sign of any protrusion of brain through the opening in the skull and the child was convalescent. He was discharged on Sept 9th.

During convalescence and when the bandages were removed an internal strabismus of the left eye was noticed. It disappeared after some months and very possibly may have been connected with injury to the external rectus muscle as the crochet hook pushed aside the eyeball in its passage across the orbit. The child is now perfectly well and presents no sign of any trouble resulting from the cerebral mischief.

Cases of this nature must always make a great impression upon those under whose care they fall, therefore it is astonishing to find how seldom they seem to be recorded Plenty of cases could be brought forward, more particularly from the older writers such as Morgagni, Bonetus, and others, and it may be that these wounds, not a few of which were caused by swords, were more common in the Middle Ages when duels were of almost daily occurrence. Mackenzie, in a work on "Diseases of the Eye" (1835), gives details of 11 cases, all, however, occurring through the orbit Let me now give you a short account of eight cases of later date They are all well worth listening to and will help us to take a wider view of the subject and pave the way for its general consideration. Bullet wounds of the base I have purposely excluded, for they constitute quite a different class of injury, also with definite and distinctive features. They are not uncommon, and Dr. John A. Liddell has given an account of 135 cases which all recovered.[2]

CASE 4 (recorded by Dr. Cornelius Williams).—A butcher, aged 48 years, whilst hanging meat, fell against some iron hooks fixed to a beam and remained suspended for several minutes upon one, which transfixed his right cheek. He walked to a hospital and had the wound attended to at once This happened on Nov. 16th On the 19th he applied at the Mount Sinai Hospital on account of a blood-shot eye and chemosis. The cheek wound was suppurating. The real nature of the injury was not at this time diagnosed. Two days later, at his second visit, cerebral symptoms had appeared (pyrexia, stupidity, and pain in the head). The same night the site of the fracture in the orbital plate (1¼ inches from the upper margin of the orbit and a little to the outer side) was exposed by dislocating the orbital contents downwards and inwards On reaching the point of fracture a tablespoonful of very fœtid red-coloured pus escaped with a quantity of gas Temporary relief followed, but death took place on Nov. 24th.

Post mortem it was found that the hook had entered the cheek and passed behind the zygomatic process of the malar bone through the spheno-maxillary fissure, fracturing the bones on either side, and through the roof of the orbit, producing a comminuted punctured fracture, lacerating the dura mater, and forcing several plates of the thin bone into the substance of the brain. There was a cone-shaped abscess in the brain with its apex upward which was surrounded by a zone of diffuse cerebritis. There was also intense congestion of the entire brain and pus was observed in the pia mater of the vertex.[3]

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[2] American Journal of the Medical Sciences, vol. lxxxi., p. 335, 1881.

CASE 5 (Specimen No. 851, Museum of the Royal College of Surgeons of England).—"The lower portion of the frontal bone and the adjoining portions of the nasal bones. A puncture passes through the orbital plate entering by the side of the right internal angular process and opening into the skull about half an inch to the right of the crista galli. The specimen was taken from a butcher's boy, aged 13 years, who inflicted the injury on himself whilst cutting a skewer, probably by thrusting the skewer into the orbit. Death took place four days after the accident, apparently owing to fresh hæmorrhage effused into the skull from a fall after the external wound had closed. (See *Edinburgh Monthly Journal of Medical Science*, 1842.) Presented by Dr. Peacock, 1876."

CASE 6. *Punctured fracture of the orbital plate; meningitis.*—A man, aged 40 years, fell from a scaffold and was admitted into the infirmary under the care of Mr. E. Ward. He could speak when admitted. He had an attack which resembled delirium tremens and died on the third day. Post mortem a small wound *above* the right eyebrow was found to lead into the cranial cavity. The orbital roof was punctured and the bone was somewhat comminuted. The under surface of the right frontal lobe was lacerated over the fracture and there was meningitis of the base extending into the spinal canal. There were other visceral injuries but the cause of death was the meningitis.

CASE 7. *Punctured fracture of the roof of the orbit; meningitis.*—This case is taken from a sensational paragraph in the *Yorkshire Evening Post*, entitled "A Bit of Wood in his Skull." A boy, aged three years, on Jan. 23rd was running about the house and playing as usual and carrying a piece of a clothes-peg in his hand. He fell and then blood was noticed coming from his eye. At the hospital the wound was attended to by the assistant house surgeon. At the inquest the medical evidence went to show that though a careful examination had been made the presence of a foreign body was not detected till Jan. 31st, when a piece of wood one and a half inches long and firmly imbedded in the skull was removed. The post-mortem examination showed that death was due to septic meningitis caused by the foreign body puncturing the roof of the orbit and the membranes of the brain. The observations of the coroner, thought worthy of reproduction, were the following: "He thought it was a most extraordinary thing that a piece of wood should get into a child's eye and should be undiscoverable for so many days, notwithstanding the numerous medical examinations that were made. They did not want to reflect improperly upon anyone, but it certainly gave the impression that there was not a proper examination of the eye made by the doctor who first saw it." The jury added a rider to their verdict to this effect: "That *they thought* [the italics are my own] that had the hospital doctor inquired how the cut occurred he might have considered it necessary to make a search for the piece of wood."

CASE 8. *Penetrating fracture of the base, passage of the weapon through the brain and the vault of the skull; recovery.*—This is the celebrated case of Phineas P. Gage, aged 25 years. Whilst engaged in blasting operations a smooth iron rod 3 feet 7 inches long and 1¼ inches in diameter, having a tapering point and weighing 13¼ pounds, passed completely through his head and high into the air. The rod passed through a wound in the cheek, external to the ascending ramus of the lower jaw, beneath the zygoma, entered the skull in the temporal fossa, and emerged where the two parietal bones join the frontal bone. There were much hæmorrhage and escape of brain matter. The patient spoke in a few minutes after the accident and could walk and give an account of how the accident happened very shortly after. He had a long illness[4] but nine or ten weeks later he was walking about the house and appeared likely to recover if he could be controlled. Dr. H. J. Bigelow, whose account I have followed, states: "from this extraordinary lesion the patient has quite recovered in his faculties of body and mind, with the loss only of the injured eye" (viz., the left, which was protruded at the time of the accident).[5]

CASE 9. *Penetration of the middle fossa by a railing spike; meningitis* (Mr. John Cowper's case).—A house painter, aged 25 years, fell with a ladder and struck his head sideways upon some railings. The terminal portion of a spike (more than two inches long) broke off and remained fixed in the skull. It entered under the apex of the mastoid process, traversed the internal ear, drove portions of the petrous bone through the dura mater, formed a considerable aperture in the bony floor of the middle fossa, and wounded deeply the posterior part of the right middle lobe. The spike was extracted but the patient died from meningitis nine days later. Except in the immediate vicinity of the wound the brain was normal.[6]

CASE 10. *Punctured fracture of the base; meningitis.*—Specimen 1086^{53}, Guy's Hospital Museum, is a portion of a frontal bone which has been pierced by a piece of wood. A man, aged 60 years, fell whilst running down hill and struck the right side of his head against a tree. A piece of wood was found to have entered the orbit from the outer side and caused destruction of the eye. He died two weeks later after cerebral symptoms had supervened. Post mortem a punctured fracture of the frontal bone was found close to the external angular process. Between the dura mater and the bone were found purulent lymph and small chips of wood (one round and pointed) and pieces of in-driven bone. On lifting up the dura mater a small hole was found in it opposite the fracture and the brain itself showed slight marks of injury and was softened, dark, and covered with inflammatory lymph at this part. (Constructed from the museum catalogue and the report of the post-mortem examination.)

CASE 11. *Punctured fracture of the posterior fossa through the mouth; injury to the cerebellum; meningitis* (Dr. W. Thyne's case).—A boy, aged five years, was standing on a snow heap holding a piece of gas piping which contained a steel umbrella rib projecting some inches. The steel rib was inserted into his mouth to imitate the bagpipes. He fell and caused the umbrella rib to penetrate the posterior wall of the pharynx. It was extracted by a bystander. There was slight oozing of blood and he appeared to recover. He was admitted to hospital the next evening with cerebral symptoms. There were convulsive movements of the right side of the face, conjugate deviation of the eyes to the left, unconsciousness, persistent vomiting, and a temperature varying from 104° to 107° F. Death took place 24 hours later. At the necropsy there was suppurative meningitis of the base, also laceration of the right cerebellar hemisphere adjacent to a fracture in the right posterior fossa external to the posterior condyloid foramen. A probe was easily passed through the puncture into the mouth. The umbrella rib had passed between the occiput and the transverse process of the atlas.

From a consideration of these cases it will be seen that the salient features of punctured fractures of the base are: (1) the frequency with which they are overlooked; (2) the not uncommon retention of a foreign body the presence of which is quite unsuspected; (3) the almost universal tendency to septic complications if the more immediate danger of death from intracranial hæmorrhage and cerebral injury is escaped; and (4) their fatal character.

1. *The frequency with which the true nature of these cases is overlooked.*—There is no fact that stands out so prominently as this. Hulke, writing in Holmes's "System of Surgery," says: "Two or three days may pass over during which the patient goes about as usual, then brain symptoms make their appearance, sometimes suddenly, and the patient dies in the course of a few hours or days and the true nature of the case is revealed only by the post-mortem examination." Recorded cases fully bear out this statement, and it may be regarded *as the rule*, unless the gravity of the external injury is too obvious to be overlooked, as in the case of Gage, or unless pronounced symptoms suggestive of intracranial hæmorrhage or of a gross lesion of the brain follow quickly on the injury.

In my first case it was particularly unfortunate that the value of Mr. Bailey's early recognition of the facts was nullified by the failure to confirm them at the infirmary. The occurrence was taken very much to heart and no doubt proved a valuable object lesson to those who were in residence at the time, and it is possible that its influence was reflected in the creditable observations which enabled the third case to be saved. The remarks of the coroner and the rider of the jury in Case 7 would at first sight appear perfectly fair and natural even to professional readers, but had the coroner's experience of these cases been more extensive it is certain that he would have summed up very differently.

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[3] Medical Record, 1879, vol. xvi., p. 56.

[4] The illness was no doubt due to encephalitis, for at the end of ten days he lay in a semi-comatose condition for another ten days and hernia cerebri formed.

[5] American Journal of the Medical Sciences, vol. xx., 1850, p.

[6] London Hospital Clinical Lectures and Reports, 1865, vol. ii., p. 245; also Hutchinson's Illustrations of Clinical Surgery.

Now it is evident that there must be some circumstances, apart from professional carelessness or incompetency, to explain this frequent non-recognition of penetrating fractures of the base of the skull. Let us briefly consider four which are of much interest.

In the first place, there are the paths by which an offending instrument may reach the base. (*a*) The most usual is *through or across the orbit*. In six of the 11 cases I have described the weapon took this course. The orbit is not necessarily entered from the front, but may be crossed from below upwards or reached from inside the zygomatic arch, and the position of the skin wound may in some cases be such that it will fail to arouse suspicion. (*b*) A much less frequent one is through the mouth and pharynx or through the nose. The latter, however, must be very rarely taken, for I have not come across a single instance except as part of an orbital wound. (*c*) Another important and not uncommon route passes *inside the zygomatic arch*. The external wound is usually in the cheek and the lower jaw may be damaged. (*d*) Lastly, the convex portion of the base—viz., the posterior segment of the skull—may be wounded directly. It is in the cases that fall into the first three groups, or, in other words, where penetration takes place through the cavities and fossæ which lie anterior to the foramen magnum, that failure to recognise the nature of the injury is usual. And it is to one or other of these groups that the large majority of cases of punctured fracture of the base belong.

In the second place, appearances are often misleading, and it must be admitted that even in the simplest cases detection is far from easy if symptoms of intracranial injury are not present. It is obvious, after what has just been stated about the different ways of approach to the base, that *the superficial wound, which is usually trivial, must often be at a considerable distance from the opening in the skull, and it is in this fact that the great difficulty of making a correct diagnosis lies*. The wound on the surface and the hole in the bone are connected by a track which is apt to be bent at an angle in consequence of the gliding of moveable skin or to be more or less circuitous owing to the return to their original positions of structures pushed aside by the penetrating object. In other cases the track may lie in the soft, almost diffluent, fatty orbital tissue. But if the aperture of entrance should chance to be in the pharynx or the nose it may escape observation altogether even after careful examination.

A third cause of uncertainty or difficulty in diagnosis may be found in the lightning-like rapidity with which the wound may be inflicted and the weapon withdrawn. This difficulty is particularly apt to be present in the cases of wounds inflicted in fencing. But it is worth noting that the withdrawal is sometimes made in a moment of excitement by a bystander or even by the patient himself, and in either case accurate observations are not likely to be forthcoming.

Lastly, strange as it may seem, the wounds in a fair proportion of these cases are regarded by the patients as too trivial to worry about, so they are apt not to seek advice until the onset of serious symptoms makes a professional error unlikely.

These remarks apply more particularly to cases where the base is penetrated in front of the foramen magnum or reached from the front through one or other of the various cavities and fossæ. Punctured fractures of the base reached directly from the exterior in the posterior segment of the skull resemble in the main similar fractures of the vertex, except that the opening in the bone lies at a deeper level owing to the mass of muscles inserted into the occipital and mastoid bones. With ordinary care they are not likely to be overlooked and in most cases will probably be due to considerable violence. (Case 9.)

2. *Unsuspected retention of the foreign body.*—This, as you will have noticed, occurred in two instances in the 11 cases I have narrated (Nos. 1 and 7). They do not stand alone. Mr. Hulke records another in which, after a portion of slate pencil impacted in the frontal bone had been removed, another portion an inch long was found post mortem in an abscess in the right frontal lobe.[7] This is on all fours with Case 10, in which chips of wood were found within the skull after death, having escaped detection at an operation. And I have already referred to a case in which a portion of tobacco pipe was removed from the orbit, after a tardy onset of symptoms caused the patient to seek advice. The patient died and a piece of the pipe an inch long was found in the cavernous sinus, having reached that spot through the foramen lacerum anticum.[8]

In all these cases, as might be expected, the objects that caused the injuries were so brittle that they would snap under a slight degree of force. Moreover, they were long and slender. Had the retained portion not been slender it would seem impossible for it to have escaped attention. But a foreign body left behind is not always due to a fracture of a brittle weapon. A brass ferule has been found near the sella turcica in a man who died a few days after being struck on the side of the nose in a fencing bout with walking-sticks.[9] Now it is in these cases in which a fracture is produced *viâ* the orbit that a portion of the object that causes it is so apt to be left behind and overlooked. It is easy to understand how a foreign body such as a slate pencil may find a hiding place in that deepest cavity, but it is astonishing how large an object can lie in it and escape recognition. Ormonde[10] refers to a case recorded by Mr. C. Higgens, in which the blade of a penknife had been imbedded in the orbit and frontal sinus for 46 years without the patient having the slightest suspicion of its presence, and Treves[11] mentions an instance of a piece of an iron hat-peg, three inches long, being imbedded for several days without the patient being aware of it.

The difficulty of recognising the presence of a foreign body in the orbit would not be so great if the contents of that cavity were in their normal condition, but œdema, and possibly hæmorrhage into the loose cellular tissue, takes place so quickly after the injury that in a very short time a state of affairs is produced in which a deeply seated firm substance may only be capable of detection when the patient is anæsthetised. Great help would be given in these cases if a clear history of the facts could be obtained, but often this is not forthcoming or may fail to be rightly understood. One practical point, however, I would impress upon you: insist upon having the offending instrument brought for your inspection. You can then satisfy yourself as to the possible extent of penetration and recognise if there is any sign of a recent breakage.

3. *The tendency to septic complications if the more immediate danger of death from intracranial hæmorrhage and cerebral injury is escaped.*—I have not come across a single instance in which some complication of a very serious character was not present. The symptoms dependent upon the complications may occur immediately or may be deferred for several days. The former are usually the consequence of hæmorrhage or of laceration of the brain, the latter of septic inflammation. And the first, if not fatal, merge into the second. Now with reference to the question of hæmorrhage, let me remind you that it is at the base of the skull that the majority of the venous sinuses are situated, and at the central portion of the middle fossa the cavernous, the circular, and the petrosal sinuses are crowded into a small area. The large arteries and their chief branches are also snugly arranged in this neighbourhood. It is hardly necessary to enumerate the carotids and middle meningeal arteries outside the dura mater and within it the circle of Willis, with the anterior and middle cerebral arteries and the basilar and posterior cerebrals, for you to picture to yourselves how likely some of these vessels are to be injured when penetration takes place towards the centre of the middle fossa. And not only is this mid-region of the middle fossa packed with blood-vessels, but resting upon it and in close relation to it are some of the most important parts of the brain. It may be regarded, therefore, as *the most dangerous region* at the base in which a penetrating fracture can occur. Consequently it is distinctly unfortunate that owing to the shape of the orbits and the inward inclination of their outer walls a pointed weapon entering horizontally must almost inevitably be directed into this part of the skull.

Let me give you one instance in illustration. A man dropped down dead in a scuffle after receiving a penetrating wound of the orbit with the point of an umbrella. Considerable bleeding had taken place from the nose and mouth and it was subsequently found that much blood was effused into the membranes of the brain and that the brain and dura mater were lacerated. Penetration appears to have occurred close to the body of the sphenoid.[12]

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[7] Holmes's *System of Surgery*, vol. i., p. 586.

[8] Mackenzie: Diseases of the Eye, p. 17.

[9] Holmes's *System of Surgery*, vol. i., p. 586.

[10] Guy's Hospital Gazette, Dec. 29th, 1906.

[11] Surgical Anatomy: Lawson's case.

[12] Mackenzie: *Diseases of the Eye*, p. 9, Case 16.

Then there is a point of very considerable interest in connexion with the wounds of the brain in these cases. Penetration for long distances is not uncommon. The brain on the table from Case 2 shows a track from base to vertex. In a wound of the left orbit related by Ruysch the stick had penetrated "to a considerable depth" into the brain. In another (Peter Borel) a sword entering the left orbit had penetrated to the cerebellum. In a third (Diemerbroeck) a sword thrust in the inner canthus of the eye traversed the corresponding lateral ventricle and almost passed through the skull at the upper angle of the lambdoidal suture. In still another an umbrella point injuring branches of the middle cerebral artery pierced the left crus, passed "into the right lateral ventricle, and must have penetrated the central parts of the brain to the depth of at least two inches."

But I have said enough. Let me pass to the later or septic *complications*. These are meningitis, encephalitis, and cerebral abscess, and if the "immediate" conditions, which I have just discussed, should be absent, or should fail to produce a rapidly fatal issue, one or more of them will inevitably supervene. There is no difficulty in understanding this. When the dura mater or the brain is penetrated septic organisms are carried directly to the intracranial contents, whether the wound is at the base or at the vertex. *On the vault of the skull the injury is evident*, it is surgically treated at once, and there is a reasonable probability that it is rendered aseptic. At the base, on the other hand, as we have seen, the real character of the injury is apt to be overlooked entirely and occasionally a septic foreign body may be allowed to remain imbedded.

In none of these cases is any attempt made to secure asepsis when it might avail. In others, though the nature of the injury may be appreciated, the position of the cranial wound may be such that surgical interference is practically impossible. And in still others the track to the brain and its meninges starts from a cavity swarming with bacteria. The very large majority of the recorded cases—in fact, nearly all —fall into one or other of these groups. But Case 3 shows that surgery can be useful and that even though a grave septic complication results it may in some cases be possible to guide it to a satisfactory issue.

Active surgery is not essential to success, as the remarkable recovery of Gage teaches us. And another very interesting case helps to enforce a similar lesson. Selwyn has recorded it. A cheese knife entered the right orbit of a boy, aged four years, for three and a half inches and was only withdrawn by considerable force. Brain matter protruded on withdrawal and more escaped on the eighth day, whilst vision was entirely lost in that eye. Recovery took place under simple treatment[13] and the lesson is—the value of a free opening for the swollen brain to protrude through and for inflammatory discharge to drain from.

4. *Their fatal character.*—This, the fourth salient feature of these fractures, does not call for much comment now, for almost every point that bears upon it has already been considered. From the historical point of view you may be interested to know that the injury in Gage's case was so remarkable and recovery considered so wonderful that Bigelowe thought it desirable—possibly for the benefit of his transatlantic cousins—to support his account of the case by the affidavits of eye-witnesses and others who could testify to its reality. The contrast between Gage's case and Selwyn's case of recovery on the one hand and the numerous fatal cases in which the injury was apparently so trivial as to be disregarded on the other cannot fail to impress you.

The number of cases of recovery are very few. I have given prominence to all I could find records of and as you see they are not numerous (Gage, Selwyn's, and Case 3). Morgagni refers to others by Borelli, Fantonus, Elias Camerarius, and Nobelius,[14] but I am unable to give you any particulars about them.

Lastly, a fracture which is very different in its causation from those which have furnished the subject matter of this lecture, but which belongs to the same type, is one of which two cases are mentioned by Mr. Hulke in Holmes's "System of Surgery." In this fracture the condyle of the lower jaw is driven forcibly through its fossa and projects into the skull. In one (Chassaignac's) the man died some months later with an abscess in the middle lobe of the brain against which the condyle was pressing. The other is a specimen in St. George's Hospital Museum.

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[13] THE LANCET, vol. xxxiv., 1837-38, vol. ii., p. 16.

[14] Letter 51, Article 57, p. 121.

A Lecture

ON

SURGICAL AFTER-TREATMENT.

Delivered before the Lancaster Medical Book Club

BY B. C. STEVENS, M.D., M.S. DURH., F.R.C.S. EDIN.

GENTLEMEN,—There is no doubt that this subject is an all important one, both to the operating surgeon and to the general practitioner. A brilliant operation may have been performed but the after-treatment left in unskilful or inexperienced hands and an otherwise successful case turns out a miserable failure. Success in surgery, as well as in all other callings, depends on attention to detail. So a sin of aseptic omission or of septic commission may spoil an otherwise brilliant operative result. One cannot dogmatise in a discussion on after-treatment because, after all, it resolves itself into the ultimate and best results obtained in cases under the personal care of the individual surgeon. After-treatment is essentially a subject in which success depends a great deal on the *surgeon's ego, tact, common* sense, and *consideration*; his insight into his patient's character, nervous system, powers of endurance, and means of comfort; and, above all, on the surgeon's appreciation of human nature and weakness.

To come to the point: Take the case of a patient who has just undergone an abdominal operation. The patient should be kept flat on his back for two hours and then propped up a little. The dorsal position so often adopted is not natural and is often uncomfortable. Consider the badly covered bony parts and the risk of "acute decubitus." This position is said to be the cause of cystitis in women. Children should not be strapped down; bodily comfort means nervous and mental rest and quicker convalescence. The right lateral recumbent position is best for natural drainage, as in stomach and appendix cases, while the semi-recumbent dorsal position is good for artificial drainage.

The thirst should be quenched by frequently rinsing the mouth with hot or cold water, or thirst may be forestalled by a large saline enema or by leaving a considerable quantity of saline solution in the peritoneal cavity. After the anæsthetic vomiting is over give a liberal allowance of fluid by the mouth, including weak tea if desired.

Much of the pain present is due to spasm of the abdominal muscles; this can be relieved by relaxing the muscles by propping up the shoulders and flexing the knees over a pillow. Try to avoid giving morphine—rather give atropine, aspirin, or sulphonal. Remember that opium masks the symptoms of intestinal obstruction or peritonitis and may deceive both surgeon and patient in gauging the urgency of the case.

The diet for the first 48 hours is important. In most cases there is no need to rely on rectal feeding, though this is a useful adjunct, especially as a means of introducing fluid into the thirsty capillary system. A good nutrient enema is easily made by giving one fluid ounce of Carnrick's liquid peptonoids or panopepton in four fluid ounces of water. Milk should be more and more avoided both before and after operations; it is often not digested but forms a tough *mass* in the stomach and leaves a bulky residue in the intestines, causing a foul odour of breath and fæces by its lactic acid fermentation. Beef-tea also is an over-vaunted diet. The best beef-tea contains only 3½ per cent. proteins. The best foods after an operation of any severity are raisin-tea (for the glucose), albumin water (for the protein), and plasmon powder in hot water or in weak tea and broth. Ordinary fluid nourishment may be given as well, also fruit jellies and meat jellies and peptonised milk chocolate. If rectal feeding has to be persevered with the rectum must be washed out daily with warm boric lotion. Enemata often upset the patient by causing vomiting, rashes, and rises in temperature. If rectal *feeding* is going on regularly it is difficult to regulate the flatus tube which, if necessary, should be introduced half an hour before the nutrient. In some cases a fluid dietary sets up flatulence; if so, give semi-solid food such as Benger's, bread and milk, arrowroot, or Allenburys milk and cereal diet. If nutrients are not given leave a flatus tube in the rectum for from 24 to 48 hours after an abdominal or a perineal operation; it is a great comfort in preventing flatulence, meteorism, and perhaps peritonitis.

In passing a catheter after operations always wait 24 hours (as there is not much urine secreted at first) and then use, if possible, a boiled one of soft rubber and lubricated with sterilised olive oil. In nearly all cases the bowels should be opened on the third day preferably by a simple enema preceded if desirable by an olive-oil injection especially in rectal cases. Five grains of calomel may be given on the evening of the second day as a rule. Enemata act without much peristalsis, which is not always an unmixed blessing, as peristalsis is beneficial, especially after appendix operations and abdominal uterine operations. A little rise in temperature the first two days is usually reactionary and means nothing serious; the more pronounced the shock of the operation the longer the reactionary temperature takes to appear and disappear. Usually if the pulse keeps below 100 the patient is doing well and there is no danger of peritonitis.

Where drainage by gauze wick, split rubber tubing and gauze together, or glass or rubber tubing has been instituted remove the gauze in 48 hours and shorten the tube a little. If necessary re-introduce fresh gauze (boiled) either by the side of, or inside, the tube. The advantage of the split rubber tube is the facility with which gauze can be placed inside it either *in situ* or *ex loco*. Glass or rubber tubes should not communicate directly with the outer air but must be covered by some antiseptic gauze. All drainage appliances must be adequately secured outside the body. Where drainage is only established for a short time a skin suture is often left ready to be tightened up when the tube is removed. In every case where the dressing is "through" if it is not changed throughout it must be re-packed with sterilised wool and re-bandaged with a sterilised bandage. Bottles or jars into which fluids drain from wounds through tubes should either be air-proof or contain some antiseptic solution.

Three weeks in bed is the usual period of rest after a laparotomy, but in some cases of hernia sutured with strong material and in some appendicectomies done by the "gridiron" operation patients may get up in from 10 to 14 days. Sutures should not be removed early unless causing irritation, and in all cases must be removed with sterilised instruments. With the forceps draw up one side of the suture so as to bring to light a buried portion of it and snip this through; by this means in withdrawing the suture you run less risk of infecting the deeper tissues. If there is a "stitch abscess" to deal with it is better simply to cut the suture and leave it until the wound has been purified in case of infecting deeper tissues. Strapping is most useful after a laparotomy and is usually applied over the gauze and wool dressing; over the strapping are usually placed more sterilised wool and a many-tailed bandage. In dressing the case afterwards all that is necessary is to cut the strapping obliquely and then to fasten it again with safety-pins; the extra support which strapping affords is of value in securing primary and firm union. When the patient is allowed up a well-fitting belt with a pneumatic pad to fit the scar is usually worn for six months.

Surgical shock has, if possible, to be prevented by judicious ante-operative treatment, such as rest and warmth in bed before the operation, a warm operating table and room, and the avoidance of noise, confusion, and display. The patient should be covered, so far as is convenient for the operator, with a Gamgee suit. The patient's system must not be drained of fluid by starvation and purgation. He may have a preliminary hypodermic injection of digitaline or strychnine or an enema of black coffee or of saline solution and brandy. These stimu- lants are useful in averting shock but practically useless in combating it. During the operation the anæsthetist is largely responsible in averting shock by the method he employs to save cardiac strain and pulmonary engorgement and pain. The surgeon is responsible by reason of his dexterity and control of hæmorrhage. In quite recent times the employ- ment of cold mackintoshes and wet carbolic towels has added to the risk of surgical shock.

The main factor in shock is the fall in general blood pressure. The tachycardia is not so much due to a failing heart muscle as to its having not enough blood to work on. Shock is due to exhaustion and breakdown of the vaso-motor centre; the blood collects into the splanchnic area and the patient bleeds into his own veins, so to speak. Neurotic shock is seen in patients whose nervous centres are exhausted by pain, malnutrition, and disappointment; they make up their minds to die and often succeed. Secondary shock is seen in debilitated and emaciated people; they have dry fauces, pinched features, sunken eyeballs, cold and blue extremities, a small quick pulse, and scanty urine. There are congestion of the gastric mucous membrane and coffee-ground vomiting; this is attributed by some to sepsis, but the real cause is the draining away of fluid from the tissues. The treatment of neurotic shock is by morphine. The treatment of immediate and secondary shock is by giving the heart something to act on, and this is done by subcutaneous or venous infusion of saline solution into the patient's system. Subcutaneous infusion is safer but takes a little longer to take effect. Venous infusion may cause pulmonary œdema or thrombosis. Fluid may also be given by the rectum and when possible by the mouth. The foot end of the bed must be raised and the patient's legs bandaged. Hot-water bottles must also be used but not to such an extent as to overdo the reaction and make the patient perspire too freely. Infusion with saline solution and adrenalin (1 in 20,000) is useful, for the adrenalin is a vaso-constrictor and therefore raises the blood pressure. If possible use oxygen with the saline treatment, as the hæmoglobin is so diluted that it wants oxygen to make more oxyhæmoglobin.

Meteorism is often preventable by using the flatus tube from the first. Distension can be detected without disturbing the dressings, or at most by simply undoing the many-tailed bandage. When detected give one grain of calomel every hour and a saline purge, or as an alternative a turpentine enema and leave in the flatus tube. A very good pill containing extract of belladonna, salol, and nux vomica increases peristalsis and so may be given with advantage. Once the intestine becomes distended with gas it becomes paralysed; then the medical attendant must look out for the quick thready pulse and give strychnine early. If other purges and enemata fail try a large enema of glycerine.

Peritonitis requires prompt treatment, such as a high turpentine enema, calomel and saline purges. Pay more attention to the pulse and less to the temperature when on the look out for peritonitis; if the pulse is under 100 the fear of this complication is usually groundless. As the toxæmia deepens the pain gets less and the surgeon must not be misled by this—the temperature also drops, which is again a deception to the unwary. If the peritonitis does not yield to the treatment mentioned an immediate second operation may be necessary under some local anæsthetic; two large tubes must then be put in and irrigation employed. In addition to this pints of saline solution may be allowed to gravitate into the subcutaneous tissues from a douche tin and free purgation kept up so as to flush the patient's system with saline solution. The more perfect the technique of the surgeon the less will he see of peritonitis after abdominal sections.

With regard to vomiting, anæsthetic vomiting is often due to an ether gastritis and is aggravated by previous frothiness, cyanosis, and strain on the right heart. The linen bag with Clover's inhaler to some extent lessens salivation and frothi- ness and is always cleaner than the rubber bag. Proper dieting before the operation is essential and gastric lavage before and after operation is useful in averting vomiting. While vomiting is going on the patient must lie in the right lateral recumbent position. For persistent vomiting gastric lavage is the best treatment, or 20 grains of sodium bicar- bonate in a tumblerful of water or three minims of tincture of iodine in a tumblerful of water may be given. Sips of iced champagne have also been found useful. For persistent hiccough try tongue traction or pressure on the phrenic nerve and perhaps a mustard leaf on the epigastrium. For the causes of regurgitant vomiting after gastro-enterostomy reference should be made to Moynihan's work on the stomach. If lavage, posture, and purgatives fail to relieve it an entero-anastomosis may have to be done and rectal feeding persisted in.

Post-operative hæmatemesis usually occurs during the first 48 hours, but may come on as late as the tenth day. It is usually seen after operations on the stomach, duodenum, and bile passages, especially in jaundiced cases, for here the blood seems to have lost its power of coagulation. The various causes are given in any work on abdominal surgery and are at present ill-understood. The treatment consists of gastric lavage with sodium bicarbonate or adrenalin. Calomel should be given frequently in small doses; also high rectal injections of hot water. To prevent this awkward and serious complication calcium chloride should be given in jaundiced and hæmophilic cases in large doses two or three days before operation.

Parotitis can in great measure be prevented by attention to oral asepsis. Stenson's duct is the most exposed one, hence the parotid gland is the one most frequently attacked. Depriving the patient of fluid is another cause of parotitis. The treatment is mainly palliative with attention to any septic focus. Glyco-thymoline or listerine are useful mouth washes.

Phlebitis and thrombosis after operations are caused by sepsis, anæmia, and pressure on the calves of the legs. It is more usually seen after pelvic operations, for the clot extends into the pelvic, iliac, and saphenous veins. The treatment is mainly palliative with lead and opium lotion, elevation of the limb, and the avoidance of pressure, movement, or rubbing.

Chest complications are more frequent after operations on the upper abdomen; for then the rigid lower intercostal and upper abdominal muscles allow an accumulation of bronchial secretion. The prolonged Trendelenburg position is bad in this respect. Other conducive agencies are cold and exposure, a dirty inhaler and rubber bag, and oral sepsis. The treatment is to prop the patient up, give ammonium carbonate freely, and use a steam kettle containing some Friar's balsam; also cover the patient's chest in a pneumonia jacket.

Post-operative mania and neurasthenia must be treated symptomatically and tactfully. Local suppuration may occur in any wound, say, for instance, a breast case in which there has been inefficient hæmostasis or drainage—a thrombus has formed and broken down. Here stitches have to be sacrificed and boric fomentations applied and good drainage substituted. If the wound is very dirty chlorinated soda solution or hydrogen peroxide is useful in cleansing it. In deep stitch suppuration if the suture is of unabsorbable material it must be removed or troublesome sinuses may persist for months.

The question of adhesions forming after abdominal operations is a most important one and must be borne in mind when vague pains still worry the patient months after the operation. This is often seen after appendicectomy and hysterectomy. The rational treatment in these cases is to get the bowels open early and to keep them open so as to stir up peristalsis. The position of the patient must be frequently changed so as to stretch any bands while they are yet thin and elastic. If this does not answer, the bands must be divided and, if possible, only peritoneal surfaces apposed to each other. If unrelieved, these bands may cause either acute or chronic obstruction.

Fæcal fistula is often seen after suppurative appendicitis and some hernia cases. The fistula should in most cases be left alone and it will close spontaneously within six months. Acute dilatation of the stomach is recognised by inspection and palpation and the patient's discomfort and irregular respiration. The symptoms are sickness, a small quick pulse, dyspnœa, and syncope. It may be due to pyloric spasm and hyperchlorhydria, atony either nervous or toxic, the dorsal position, and a too sloppy dietary. The treatment consists of lavage, calomel in small and frequent doses, and rectal feeding. Give alkalies.

The following are a few brief notes on certain operations. In some cases of colostomy the bowel will have to be opened after 48 hours—this must be done with asepsis, of course; trim up the redundant mucous membrane, and snip off any appendices epiploicæ if this has not already been done; the wound is then dressed with oiled silk or eucalyptus ointment spread on gauze. A wise precaution is to seal off the skin incision with "new skin" or collodion. The lower and stagnant part of the bowel should be flushed through or syringed out with boric solution so as to keep the bacillus coli in hand. Remember it is the atony of long-continued obstruction which causes the mortality of colostomy, not the operation.

In hernia cases get the bowels open early and so prevent adhesions. Scrotal hæmatocele is avoided by careful ligation, good drainage, and raising the scrotum. In using drainage-tubes about the scrotum do not forget the aseptic safety-pin, or these tubes may disappear and cause trouble and annoyance. Collodion and gauze is a useful dressing, especially in children. Vomiting coming on a week after the operation is either due to sloughing of an omental stump or to adhesions between it and the intestine.

In breast cases leave the arm free and use a many-tailed bandage. Nearly always leave a tube in for 24 hours and change the dressing as soon as it is "through." Dust the axilla well with boric acid.

In gall-bladder cases use cellulose wadding as the best absorbent for the bile from the fistula. A rubber drain is usually fastened to the gall-bladder by catgut sutures and will come away in eight days. Conduct all the bile into an air-tight glass vessel or into an antiseptic solution. After the tube is removed the skin may get sore from the digestive action of the bile on it; therefore wash the skin daily and dust it well with boric powder or smear it with hazeline ointment. The lumbar drainage-tube is removed in from 36 to 48 hours and a gauze drain substituted for a few days. If gauze is used in the anterior incision instead of or as well as a tube it is well to wait from 48 to 72 hours before gently withdrawing it, as it may be packed down on to an incision in the common bile-duct. Look out for hæmorrhage in all jaundiced cases and give calcium chloride before and after operation. The leakage sometimes seen after duodeno-choledochotomy is due to sutures near the ampulla of Vater having been prematurely digested by the pancreatic juice.

After operations on the urinary bladder give salol or boric acid. If the incision is suprapubic wash out the bladder thoroughly through a catheter per urethram and a tube per abdomen. The urine should be syphoned off and not allowed to escape into the dressings. Here, again, cellulose wadding is the best absorbent if syphonage cannot be thoroughly carried out. For hæmorrhage use liquid extract of hamamelis as an injection. After rectal operations eucalyptus ointment spread on iodoform or cyanide gauze is a good dressing for packing. If an enema has to be given after a rectal case give a cocaine suppository first, also an olive oil injection. For rectal hæmorrhage pass a catheter as flatus tube and then pack round it with a captive sponge. A morphine and belladonna suppository will often help the patient to micturate after a rectal operation; a purge is also useful, for the centres of the bladder and the rectum are close together in the spinal cord so when one works the other often follows suit. If there is difficulty in keeping a drainage-tube in any wound or organ affected by position or respiration anchor the tube to the skin by a silkworm-gut suture. After operations for suppurative appendicitis or other local peritoneal abscess when the initial gauze packing and tube have been removed do not syringe the wound but gently swab it clean and pour in boric powder. In knee-joint operations do not hesitate to sacrifice a stitch if there is tension or you may induce suppuration. In fracture of the patella never fix the knee-joint but begin passive and active movements very early. If the bone has been well wired the patient should be walking with sticks in a fortnight. In circumcisions never use strapping; just plenty of boric ointment on lint, with wool and a napkin. If the dressing sticks let the patient sit in a warm bath. After a few days carefully manipulate and coax the retracted skin on to the glans penis. In tongue cases rectal or nasal feeding is often necessary. Medicated steam kettles should be kept going and strict oral asepsis carried out. In dressing cases boiling water can always be got and should be used. Sterilise all instruments, dressings, and re-introduced tubes.

PHYSIOLOGICAL AND PATHOLOGICAL OBSERVATIONS ON WRIGHT'S METHOD OF TESTING THE BLOOD AND URINE,

WITH SPECIAL REFERENCE TO THE CONCENTRATION OF THE SERUM AND URINE (EXPRESSED IN TERMS OF NaCl) AND THE EXCRETORY QUOTIENT IN NATIVES OF BENGAL.

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IN THE LANCET of April 2nd, 1904, Sir A. E. Wright and Dr. J. N. Kilner published a paper on a New Method of Testing the Blood and the Urine, with special reference to the Determination of the Excretory Efficiency of the Kidney, and in THE LANCET of Oct. 21st, 1905, another paper of absorbing interest appeared under the joint authorship of Sir A. E. Wright and Dr. G. W. Ross. This paper dealt more particularly with the discrimination of "physiological albuminuria" from the albuminuria caused by renal disease.

In the first of these papers the authors showed by this new method of testing the blood and urine that in health a relationship between the concentration of the serum and the urine exists of such a nature that the excretory quotient is never represented by a figure less than two but always by two or over. The second paper—which introduced a much simpler method of carrying out the test—was devoted to demonstrating by means of the excretory quotient test that in physiological albuminuria the kidneys are not organically impaired and are able to elaborate from the blood a concentrated saline solution.

Briefly, the test is as follows. In a capillary tube a measured volume of blood is mixed with two volumes of a diluted standard solution of NaCl; different dilutions $\frac{N}{30}$, $\frac{N}{35}$, $\frac{N}{40}$, &c., are made use of until the particular dilution is found that just exactly causes hydrolysis of the red blood corpuscles. Thus, for example, two volumes of a $\frac{N}{35}$ NaCl solution cause hæmolysis of one volume of blood—i.e., two volumes of a 0·167 per cent. NaCl solution cause hæmolysis of one volume of blood. Similarly the urine is taken (certain precautions in its collection being observed) and is diluted with distilled water four-, six-, eight-, &c., fold until it is again found that two volumes of the diluted urine when mixed with one volume of the blood just causes hæmolysis—i.e.,

Two volumes of $\frac{U}{12}$ cause hæmolysis of one volume of blood.

Therefore $\frac{U}{12} = \frac{N}{35} = 0{\cdot}167$ per cent. NaCl.

Therefore, urine = 2·004 per cent. NaCl = hæmosozic value of the urine—i.e., the urine contains the equivalent of 2·004 per cent. NaCl.

Again, the serum of the blood is examined in exactly the same way and its concentration in terms of NaCl is estimated as, for example:—

Two volumes of $\frac{\text{serum}}{6}$ cause hæmolysis of one volume of blood.

Therefore $\frac{S}{6} = \frac{U}{12} = \frac{N}{35} = 0{\cdot}167$ per cent. NaCl.

Therefore serum = 1·002 per cent. NaCl = hæmosozic value of the serum—i.e., the serum contains the equivalent of 1·002 per cent. NaCl.

The excretory quotient is obtained by dividing the minimum dilution of the urine that causes complete hæmolysis by the minimum dilution of the serum that causes complete hæmolysis; in the example this would be—

$$\frac{\text{Urine}}{\text{Serum}} = \frac{12}{6} = 2 \text{ (excretory quotient).}$$

In healthy Europeans in England this excretory quotient never falls below the figure 2, whereas in conditions of impairment of the renal function it falls to well below 2, usually 1 or under.

In the second paper mentioned above Wright and Ross showed that in physiological albuminuria the excretory quotient conformed to the standard obtained in health, in other words, that in physiological albuminuria the kidney is able to elaborate from the blood a concentrated saline solution, whereas in albuminuria depending on organic disease of the kidney it is unable to do so.

From the result of investigations on metabolism that have been going on for some time in the Physiological Laboratory, Medical College, Calcutta, it was evident that some modification of this test would be necessary when applied to natives of Bengal, and for this reason a series of observations was undertaken to obtain the data for the Bengali. Healthy students attending the department were examined. The method as devised by Wright was rigidly observed, so that the results might be as far as possible comparable. Besides the concentration of the serum and urine and excretory quotient a few other observations were made in each instance—viz., the blood pressure, the freezing point of the urine, and the chlorides in the urine—as is shown in Table I.

TABLE I.

No.	Solution of diluted normal NaCl causing hæmolysis.	Blood pressure in mm. Hg.	Hæmosozic value of serum in terms of NaCl.	Hæmosozic value of urine in terms of NaCl.	Freezing point.	Chlorides.	Excretory quotient.
			Per cent.	Per cent.	° C.	Per cent.	
1	$\frac{N}{37{\cdot}5}$	109	0·936	1·09	– 1·42	1·07	1·18
2	$\frac{N}{47{\cdot}5}$	105	1·84	1·84	– 1·49	1·13	1·00
3	$\frac{N}{40}$	115	1·02	1·16	– 0·97	1·1	1·14
4	$\frac{N}{40}$	98	1·02	1·16	– 2·03	1·08	1·14
5	$\frac{N}{40}$	100	0·87	0·87	– 0·87	0·83	1·00
6	$\frac{N}{45}$	115	1·04	1·75	– 1·80	1·72	1·68
7	$\frac{N}{52{\cdot}5}$	105	1·33	1·66	– 1·47	1·34	1·25
8	$\frac{N}{35}$	109	1·33	1·33	– 1·40	1·20	1·
9	$\frac{N}{50}$	88	1·75	1·63	– 1·43	1·37	0·93
10	$\frac{N}{40}$	102	1·27	1·75	– 1·24	1·70	1·32
11	$\frac{N}{40}$	105	0·87	1·16	– 0·89	0·97	1·23
12	$\frac{N}{40}$	114	1·02	1·16	– 0·85	0·82	1·
13	$\frac{N}{42{\cdot}5}$	97	1·23	1·37	– 1·50	1·42	1·11
14	$\frac{N}{40}$	114	1·02	1·16	– 1·16	1·14	1·14
15	$\frac{N}{35}$	110	1·33	1·33	– 1·17	1·24	1·00
16	$\frac{N}{45}$	106	0·910	0·910	– 0·90	0·87	1·00
17	$\frac{N}{40}$	100	1·02	1·02	– 0·93	0·78	1·00
18	$\frac{N}{45}$	98	1·04	1·04	– 0·75	0·65	1·00
19	$\frac{N}{43{\cdot}75}$	107	1·06	1·33	– 1·30	1·30	1·25
20	$\frac{N}{47{\cdot}5}$	103	0·98	1·47	– 1·38	1·31	1·50
21	$\frac{N}{67{\cdot}5}$	95	1·01	1·42	– 1·14	1·22	1·40
22	$\frac{N}{65}$	83	2·07	2·69	– 1·94	20·1	1·25
23	$\frac{N}{45}$	93	1·04	1·04	– 1·48	1·03	1·00
24	$\frac{N}{52{\cdot}5}$	97	0·89	1·33	– 1·57	1·50	1·50
25	$\frac{N}{52{\cdot}5}$	93	0·779	0·89	– 0·90	0·81	1·14

A large number of students were examined, of which the above tabulated results of 25 may be taken as typical examples, and we may conclude that the averages obtained do not depart far from the normal standards for natives of Bengal. All these observations were taken practically under the same conditions regarding weather, time of day, and interval after food and drink; the urine was collected during the process and the blood pressure was examined by the same instrument (Riva Rocci's), each student being placed in exactly the same position. In every instance also each particular observation, such as the freezing point of the urine, the chlorides, &c., was made by the same observer and in the same manner. An analysis of the results works out as follows:—

1. *Caste, age, condition, &c.*—All were healthy Hindus of Lower Bengal, their age varying between 20 and 25 years.

2. *Blood pressure.*—Riva Rocci's sphygmomanometer with Recklinghausen's broad armlet on the brachial artery—taking the reading at the disappearance of the pulse at the wrist—was the method employed. The pressure over a very large number of observations varied between 83 mm. Hg and 118 mm. Hg, the average being slightly *over 100 mm. Hg* (sitting position, arm level with heart). *This is much lower* than the blood pressure laid down for Europeans in European (colder) countries.

3. *The degree of dilution of standard solution of NaCl* necessary in order to cause complete hæmolysis of the red

blood corpuscles is greater than Wright obtained in England. $\frac{N}{35}$ is about the average which he lays down, whereas it will be seen $\frac{N}{45}$ is much nearer the true figure for natives of Bengal.

4. *The hæmosozic value of the serum*—i.e., the minimum dilution of the serum that causes complete hæmolysis multiplied by the percentage of the salt content equivalent of the blood. In the present series results practically identical with those published by Wright were obtained, so that we may take it that the serum in Europeans in England and the serum in natives of Bengal is practically the same—at least, so far as this method of investigation shows.

5. *The hæmosozic value of the urine*—i.e., the minimum dilution of the urine that causes complete hæmolysis of the red blood corpuscles multiplied by the salt content equivalent of the blood. This hæmosozic value of the urine was found to give very different results from those obtained in England. In Wright's published cases the hæmosozic value of the urine varied between 1·80 and 3·90 per cent. (expressed in terms of NaCl), while in natives of Bengal it varied between 0·87 and 2·69 per cent. NaCl, the average being much lower than in Europeans.

6. *The chlorides in the urine.*—As will be seen from Table I. there is a very close relationship between the amount of chlorides estimated chemically and the hæmosozic value of the urine expressed in percentage of NaCl. The average quantity of chlorides present in the urine by chemical analysis worked out to be 1·21 per cent., while the average hæmosozic value (in terms of NaCl) was 1·31 per cent. It will be evident that this amount (1·21 per cent.) of chlorides is lower than that obtained in Europeans.

7. *The excretory quotient*—i.e.:

$$\frac{\text{The hæmosozic value of the urine}}{\text{The hæmosozic value of the serum.}}$$

This differs very markedly from the results obtained by Wright. In the present series it varied between 0·93 and 1·63 compared with 2, or over 2, as seen in England. In natives of Bengal the figure representing the excretory quotient may be taken as normally about 1·20; it would therefore appear—as the hæmosozic value of the serum varies little from that of Europeans—that the urine of natives of Bengal requires much less dilution in order to cause hæmolysis than the urine of Europeans, and from this it would follow that the urine in natives of Bengal has a lower salt concentration than the urine in Europeans. This is sufficiently evident from a consideration of (*a*) the average quantity of chlorides; (*b*) the average freezing point; and (*c*) the average specific gravity, all of which are on a much lower grade than is the case normally in the urines of Europeans. This point has a distinct bearing on von Koranyi's criterion of renal competency—viz., whether the kidney is, or is not, competent to elaborate out of the blood a concentrated saline solution. Regarding this there will be fuller evidence when the pathological application of these results is dealt with.

8. *The freezing point of the urine.*—From an analysis of some hundreds of observations on the urine of healthy students it was found that the freezing point varies directly with the specific gravity. In the present series it varied between −81° and −2·23° C., but it very rarely was so low as −1·65° C., quite the common reading to find being −1° C. (about).

The quotient[1] $\frac{\Delta}{\text{NaCl per cent.}}$ representing the ratio of the total concentration to the sodium chloride in Europeans varies within relatively narrow limits in health, diet according to von Koranyi having practically no influence. In Europeans $\frac{\Delta}{\text{NaCl per cent.}}$ variations lie between 1·23 and 1·69, while in natives of India they lay between 0·72 and 1·78, very much wider limits than laid down for Europeans. In fact, in natives the quotient $\frac{\Delta}{\text{NaCl per cent.}}$ very nearly approaches unity, being just over or just under 1.

This investigation was undertaken with a view to obtain some idea of the condition of the blood and urine that normally is present in natives of Bengal. The following conclusions have been arrived at: 1. The excretory quotient in natives of Lower Bengal averages about 1·20 compared with 2 or more for Europeans. 2. The average blood pressure in the brachial artery is about 104 mm. Hg compared with 120 mm. Hg in Europeans. 3. The specific gravity and freezing-point differ widely from that obtained in Europeans, being much lower. 4. The total salts in the urine are low and the power of the kidney to elaborate out of the blood a concentrated saline solution would appear to be much less than in Europeans.

PATHOLOGICAL APPLICATION IN NATIVES OF BENGAL.

Wright, accepting von Koranyi's criterion of renal competency—the power of elaborating out of the blood a concentrated saline solution—was led to the conclusion from his results that by the excretory quotient test he was able to differentiate between conditions in which the functional activity of the kidney is impaired and those in which it is intact, even when there is albumin present in the urine; also that in the excretory quotient test we had obtained a trustworthy criterion of the competence or incompetence of the kidney. From the results obtained in pathological conditions in natives of Bengal a somewhat different conclusion has been arrived at. First with regard to the excretory quotient test in kidney disease the results obtained confirm those published by Wright as shown in Table II.

TABLE II.

No.	Blood pressure in mm. Hg.	Hæmosozic value of serum.	Hæmosozic value of urine.	Freezing point.	Chlorides.	Excretory quotient.	Remarks.
		Per cent.	Per cent.	°C.	Per cent.		
1	125	0·89	0·43	—	—	0·50	European. No œdema or ascites; anæmia present; albuminuria 1·3 per cent.
2	135	2·032	1·016	—	0·93	0·50	Well-marked Bright's disease; œdema and ascites present; albuminuria.
3	103	0·849	0·636	—	0·31	0·75	Slight œdema and albuminuria. Blood: Hb = 58 per cent.; r.b.c. = 3,370,000.
"	104	0·935	0·467	−0·71	0·68	0·50	
4	108	2·12	0·53	−0·92	0·38	0·25	Well-marked Bright's disease; albuminuria, œdema, &c. Blood: Hb = 42 per cent.; r.b.c. = 4,500,000.
5	100	4·26	1·16	−0·97	—	0·25	Œdema, ascites, albuminuria. Blood: Hb = 46 per cent. and 40 per cent.; r.b.c. = 2,100,000 and 2,400,000.
"	95	3·42	0·806	−0·82	0·54	0·23	

Hb = hæmoglobin; r.b.c. = red blood corpuscles.

Secondly, two cases of physiological albuminuria gave results exactly corresponding with those obtained in the normal series and fully agreeing with Wright's conclusions as shown in Table III.:—

TABLE III.

No.	Blood pressure in mm. Hg.	Hæmosozic value of serum.	Hæmosozic value of urine.	Freezing point.	Chlorides.	Excretory quotient.	Remarks.
		Per cent.	Per cent.	° C.	Per cent.		
1	87	0·81	0·935	−1·35	—	1·14	Albuminuria disappeared under treatment; had slight fever which may have accounted for the albumin.
2	112	0·83	0·83	−0·91	0·76	1·00	Albuminuria disappeared under treatment with $CaCl_2$ and rest.

The second of these cases had been looked on as a kidney case until his excretory quotient was tested. He was discharged from hospital cured.

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[1] The letter Δ is usually employed to express the freezing point which is a measure of the total concentration of the solids in solution.

Thirdly, it has been found that the same low excretory quotient is obtained in certain of the secondary anæmias—such as ankylostomiasis—as in kidney disease, as shown in Table IV.

TABLE IV.

No.	Blood pressure in mm. Hg.	Hæmosozic value of serum.	Hæmosozic value of urine.	Freezing point.	Chlorides.	Excretory quotient.	Remarks.
		Per cent.	Per cent.	°C.	Per cent.		
1*	95	2·12	0·74	—	0·38	0·35	No albuminuria; œdema and ascites well marked and getting worse; very anæmic. Hb = 24 per cent.; r.b.c. = 2,080,000; normoblasts present.
,,	96	6·09	1·21	– 1·25	1·03	0·20	
2	86	3·95	1·23	– 1·33	1·12	0·41	No albuminuria; œdema and ascites present; anæmia. Hb = 21 per cent.; r.b.c. = 2,100,000.
,,	88	1·52	1·30	– 1·69	1·23	0·85	Improved; no albuminuria; no ascites, only a trace of œdema. Blood: Hb = 24 per cent.; r.b.c. = 2,500,000. Ankylostomiasis present.
3	122	1·72	0·934	—	0·73	0·60	No albuminuria; œdema and ascites present; anæmia. Blood: Hb = 48 per cent.; r.b.c. = 4,600,000.
,,	115	2·32	0·67	—	0·40	0·30	Patient worse; more œdema and more ascites. Blood: Hb = 44 per cent.; r.b.c. = 3,200,000. This was a case of ankylostomiasis.
4	88	0·847	0·47	– 1·25	0·95	0·56	No albuminuria; no œdema or ascites; diarrhœa. Blood: Hb = 22 per cent.; r.b.c. = 1,350,000.

* Post-mortem examination of this case showed ankylostomiasis with the presence of intestinal ulcers to be the cause of death. There was no disease of the kidneys.

Fourthly, the low value for the excretory quotient is not obtained in cases showing œdema and ascites due to some cause other than anæmia, as shown in Table V.

TABLE V.

No.	Blood pressure in mm. Hg.	Hæmosozic value of serum.	Hæmosozic value of urine.	Freezing point.	Chlorides.	Excretory quotient.	Remarks.
		Per cent.	Per cent.	°C.	Per cent.		
*1	107	1·022	1·164	– 1·30	0·75	1·13	Very marked œdema and ascites; no albuminuria; no anæmia. Blood: Hb = 97 per cent.; r.b.c. = 5,000,000.
,,	105	1·022	1·168	– 1·18	0·81	1·14	Œdema slightly diminished. Blood: Hb = 87 per cent.; r.b.c. = 4,670,000. P.M.: probable cause of death, wet form of beri-beri.

* The examination of this case would tend to show that œdema, &c., may be due to other causes than the retention within the tissues of the salts of the blood. In this particular instance the most probable explanation was the condition of the peripheral nerves.

From an analysis of the results shown in Table IV. it will be evident that, to explain the low excretory quotient present in cases of secondary anæmias in which the kidneys are healthy, some cause other than renal incompetency must be looked for. The published cases bearing on this point afford little information of value. In Wright's series[2] the serum is shown to be modified in the same characteristic manner as is seen in Table IV., but only in two instances was the value of the excretory quotient estimated. His results in pernicious anæmia and chlorosis would point to a greater degree of serum concentration in these diseases such as occurs in secondary anæmia and in the œdema of nephritis. Therefore, in pernicious anæmia and chlorosis we should expect to find the same low excretory quotient that is seen in the other conditions mentioned.

Upon this question the work done by Dr. T. Houston[3] throws considerable light. He shows that, in the œdema of renal disease, in chlorosis, in splenic anæmia, and in pernicious anæmia there is an abnormal accumulation of fluid in the blood and tissues and that the œdema of anæmic conditions results from a hydræmic plethora of the blood. Professor J. Lorrain Smith,[4] from investigations on the total volume of the blood in the different forms of anæmia, came to the conclusions that the anæmia of chlorosis is due to an increase in the plasma of the blood, the total hæmoglobin remaining normal in amount, whilst in pernicious anæmia the volume of the plasma may be reduced or increased. Professor Smith states: "The condition (chlorosis) may be described as consisting in a great increase in the plasma of the blood, the apparent loss of hæmoglobin being due almost entirely to the increase in the plasma." He also lays stress on the fact, noted by several observers, that the specific gravity of the plasma in chlorosis is the same as that of normal blood; this, it will be evident, has a very important bearing on the cause of the increase in the amount of plasma—viz., its increased salt concentration from retention of the chlorides. Further, it is well known clinically that *one of the first signs of improvement in these anæmias* is a loss of body-weight usually due to a great increase in the fluid excretions. There is ample proof that retention of chlorides involves a retention of water with an accompanying increase in body-weight, which increase will closely correspond to the theoretical amount necessary to give a dilution of about 0·55 per cent. of chlorides.[5] Taking all these different facts in combination with the work done on the salt interchanges of the body, it would appear that in the different forms of anæmia and in renal disease there is an increased salt concentration of the serum (salt retention) involving a retention of fluid within the *tissues*; this would equally explain the increase in body-weight, the hydræmia and increased volume of the blood, the œdema and anasarca which is such a common feature and, at the same time, it would explain the results obtained by the excretory quotient test in the anæmias examined in Table IV.

Now the question arises, What is the cause of this retention of chlorides and increased salt concentration of the serum? Widal, who was the first to work on this subject, ascribed the condition to "renal impermeability" to chlorides. This view would lay the fault with the excretory function of the renal epithelium and would therefore be on a par with von Koranyi's criterion of renal competency—the power of elaborating from the blood a concentrated *saline solution*; but "renal impermeability" due to kidney disease will not explain the retention of chlorides in anæmia where the renal function is not impaired and where, when improvement begins, the elimination of the chlorides may set in suddenly, the increased *salt concentration of the* serum disappearing rapidly and along with it the œdema, ascites, &c. In pneumonia and in other febrile diseases there is retention of the chlorides. Hutchinson has shown that the tissues in these diseases contain chlorides in excess although the kidneys are perfectly healthy. From this and other evidence it seems probable that a retention of the chlorides occurs quite independently of the kidney, and that, therefore, Widal's term "renal impermeability" is not a true explanation of the condition. Forster has given a purely physical explanation of the phenomenon. He believes that crystalloids in the blood may exist in *two states*: a small part free and able to pass through the glomerular epithelium and a larger part in combination with colloid and unable to pass through the glomerulus. The increased salt concentration of the serum in nephritis and anæmia could *easily* be explained on this theory by the supposition that in these conditions there was an increase in the salt-combining *colloid material* present in the tissues.

It might be suggested, therefore, that the high degree of concentration of the serum in nephritis or, at least, in anæmia may be due to some change in the condition of the blood—such as loss of hæmoglobin, diminution in the number of the red blood corpuscles or both combined—that so affects the relationship between the salt retained in combination with colloid and the salt free to be eliminated that a much larger proportion of the salt is retained than in normal circumstances. This view would exonerate the kidneys from blame and lay the fault on the condition of the blood. What evidence is there in favour of this view? In the first place, it is a remarkable fact that it is in the chronic parenchymatous form of nephritis that the salt retention and low excretory quotient are best seen, and it is in this form also that the anæmia of Bright's disease is well marked. Then from an analysis of the results of observations in anæmic conditions due to different causes the concentration of the serum varies directly with the amount of œdema present and with the degree of anæmia, as shown in Table VI.

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[2] THE LANCET, April 2nd, 1904, p. 921.

[3] *The Œdema of Anæmia*, Brit. Med. Jour., June 14th, 1902.

[4] The Volume and Oxygen Capacity of the Blood in Anæmia, Transactions of the Pathological Society of London, vol. li., Part iii.

[5] Bainbridge: Practitioner, vol. lxxvii., No. 6.

TABLE VI.

Date.	No.	Concentration of serum.	Concentration of urine.	Excretory quotient.	Remarks.	Blood.
		Per cent.	Per cent.			
13/3/07	1	4·26	1·16	0·25	Albuminuria; marked œdema and ascites.	Hb = 46 per cent.; r.b.c. = 2,100,000.
18/3/07	,,	2·84	1·42	0·50	Œdema and ascites much less.	Hb = 40 per cent.; r.b.c. = 2,400,000.
21/2/07	2	2·12	0·74	0·35	No albuminuria, œdema and ascites present.	—
26/2/07	,,	6·09	1·21	0·20	Œdema and ascites much worse.	Hb = 24 per cent.; r.b.c. = 2,050,000.
6/3/07	3	3·95	1·23	0·41	No albuminuria, œdema and ascites present.	Hb = 21 per cent.; r.b.c. = 2,100,000.
17/4/07	,,	1·52	1·30	0·85	No œdema; no ascites.	Hb = 24 per cent.; r.b.c. = 2,700,000.
8/3/07	4	0·84	0·63	0·75	Albuminuria; slight œdema.	Hb = 58 per cent.; r.b.c. = 3,370,000.
16/3/07	,,	0·935	0·46	0·50	Œdema better marked; urine scanty.	Hb = 56 per cent.; r.b.c. = 3,450,000.
6/3/07	5	2·12	0·54	0·25	Well marked Bright's disease; œdema and ascites.	Hb = 42 per cent.; r.b.c. = 4,500,000.

These results contrast very markedly with those shown in Table V., in which, even with general œdema and ascites but no anæmia, the concentration of the serum and excretory quotient conformed to the normal. Of course, a much larger number of observations will be necessary before any definite conclusion can be arrived at, but all our evidence would seem to point to the fact that the degree of concentration of the serum determines the degree of œdema, and that there is some relationship between the œdema and the amount of anæmia. This appears to be true equally for secondary anæmias (probably also all anæmias) and the anæmia of Bright's disease.

It would, therefore, follow that the excretory quotient test, being a measure of the salt concentration of the serum compared with the salt concentration of the urine, does not depend on the presence or absence of kidney disease, whereby the kidney is unable to eliminate the chlorides, but does depend on some condition of the blood or tissues by which chlorides are retained in the system. What the determining factor in this retention is at present it is not possible to say; it would appear at least to have some relationship to the presence and degree of anæmia, but whether due to destruction of corpuscles, loss of hæmoglobin, or some other factor must remain for the present an open question.

Methods of investigation.—When dealing with blood containing a low percentage of hæmoglobin a modification of Wright's method had to be adopted, as in these cases the colour changes on dilution differ so slightly that precision could not be attained. The translucency of hæmolysed blood was taken advantage of and the point where hæmolysis occurred was determined by the ease with which a black dot on a white ground could be seen through blood that had been hæmolysed compared with the non-translucency of even very diluted blood that had not undergone hæmolysis.

In each observation the blood examination was carried out by an independent worker, Assistant-Surgeon L. M. Ghosal, L.M.S.; also the amount of chlorides present in the urine was determined by another assistant, Assistant-Surgeon M. M. Dutta, L.M.S., to both of whom I offer my best thanks for much assistance.

For permission to examine the different patients I am indebted to Colonel C. P. Lukis, I.M.S., principal; and Colonel G. F. A. Harris, I.M.S., Captain J. W. D. Megaw, I.M.S., and Captain M. MacKelvie, I.M.S., physicians of the Medical College Hospital, Calcutta. Last, though not least in degree, my thanks are due to the students of the physiological classes for providing the means of determining the physiological standards on which the whole value of the paper rests.

Calcutta.

CASE OF MULTILOCULAR OVARIAN CYST SUCCESSFULLY REMOVED FROM AN INFANT AGED 11 MONTHS.

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THE following case seems to possess some points of interest, in fact to be perhaps unique in certain respects, and therefore deserves to be recorded.

Towards the end of January of this year an infant was sent to my wards in the Royal Infirmary, Edinburgh, as a case of tuberculous peritonitis requiring surgical interference. The mother, a woman aged 35 years, gave the following history. When she was about 20 years of age she married and had one child, a boy, who died. She was afterwards left a widow, but subsequently she again married and had five consecutive miscarriages, at periods varying from four to seven months. No syphilitic history could be made out. Finally, at the commencement of February, 1906, she was safely delivered, at full term, of a healthy female child who was entirely brought up on the breast. The child throve well until she was three months old. The mother then noticed that the abdomen was hard and full, and that the infant seemed to suffer pain and discomfort, and was occasionally sick and troubled with diarrhœa. From this time onward the abdomen rapidly increased in size, while the child wasted. She grew peevish and took nourishment badly, had increasing difficulty in breathing, and the former symptoms of digestive disturbance got steadily worse. The mother finally sought medical advice, and the child was sent to the Infirmary with the diagnosis previously mentioned.

On admission the child was found to be an ill-nourished and emaciated infant, with cyanosed lips and face, rapid pulse, difficult breathing, and some sickness and diarrhœa. The abdomen was enormously distended, the lower ribs were projecting, the parietes were thinned and showing numerous large distended veins, and the navel was projecting. The whole abdomen was of drum-like hardness, so that nothing could be felt of its contents. There was absolute dulness on percussion, except in the left flank, where there was a tympanitic area. Slight, varying areas of tympanites could be made out on light percussion to the right of the umbilicus. The dulness extended up to the right nipple, and a circumscribed area of tympanites was to be made out below the left nipple. About a tablespoonful of clear yellow fluid was drawn off by means of a hypodermic syringe from the right flank and half a teacupful of similar fluid from the left of the umbilicus. The fluid did not flow easily; on moving the needle in different directions it seemed to penetrate separate cavities. The distension being slightly relieved, the surface of the underlying structures appeared to be irregular and nodular. No more definite diagnosis could be made than that the abdomen, from the diaphragm to the pelvis, was filled by a mass containing separate cavities filled with fluid, and that the greater part of the intestines lay in the left flank with a single coil passing upwards to the right of the umbilicus.

Two days later the child was chloroformed in a warm theatre and an exploratory incision was made a little to the left of the middle line below the umbilicus. The abdominal cavity being opened a small quantity of ascitic fluid escaped and the nodular wall of a large cyst was seen. This was punctured, but as the cavity proved to be multilocular only small quantities of fluid escaped and no appreciable diminution in size resulted. Passing the finger into the cyst and trying to break down the septa gave no better result, but the cyst seemed to be nowhere firmly adherent to the abdominal parietes. The child was now very much collapsed, but, as it was evident that death would result if nothing more were done, the incision was rapidly extended upwards to within two inches of the ensiform cartilage. On the front of the multilocular cyst, to the right of the umbilicus, there was now to be seen the cæcum with the appendix, and the ascending colon lying empty, attached to the front of the cyst and stretched over it. The cyst was therefore evidently retroperitoneal. Avoiding these structures the posterior layer of peritoneum was torn through and stripped off the cyst, which was then rapidly turned out. There were found three points of attachment to the posterior abdominal wall—one below the liver, one about the level of the umbilicus, and a third near the brim of the pelvis to the right side. These were made up of large veins and arteries which, after being seized with forceps, were divided, the tumour was removed, and the points of attachment were ligatured. The child was now pulseless, and the breathing for the moment was imperceptible from shock. On artificial respiration being had recourse to the breathing, however, rapidly improved, the chest being now able to expand, and the pulse improved. The abdomen was dried out and hot saline solution was introduced. The state of the child did not allow of any prolonged investigation as to the condition of the pelvic or other organs and the long incision, some eight inches in extent, was rapidly sutured with a continuous suture, sterile wool and a firm bandage being applied as dressing. The infant was put to bed in a collapsed condition and was surrounded by hot bottles. More or less collapse continued throughout the night, the child refusing milk but taking minute doses of whisky with avidity. The next day the child took the breast and never thereafter had a bad symptom. The wound healed by first intention and the suture was removed at the end of ten days, the walls of the abdomen being supported by means of broad strips of adhesive plaster, cotton-wool, and a firm bandage.

The tumour was found to be a curious double multilocular cyst, the two halves being nearly equal in size and attached by their fibrous walls the one to the other by loose connective tissue. Its length on removal was about 10 to 11 inches and its thickness about four to five inches. It filled up the whole distended abdominal cavity from the diaphragm to the true pelvis, and from its size it came to be a question whether the cyst was removed from the child or the child from the cyst.

The pathological report, kindly supplied me by Mr. Henry Wade, the conservator of the museum of the Royal College of Surgeons of Edinburgh and assistant pathologist to the infirmary, is as follows:—

> *Report on specimen.*—Tissue consists of a stroma of young connective-tissue cells, forming young fibrous tissue. These surround spaces which have an epithelial lining which is flattened out in some, absent in others, and in others is seen to be undergoing a mucoid degeneration. Multiple cystic ovarian tumour.

On consulting the literature, I find that perhaps the most complete and full *résumé* of the subject of such tumours in children is that by Dr. Howard Kelly, of Baltimore, in the fifth volume of Keating's "Cyclopædia of the Diseases of Children," being a supplement published in 1961. Bland-Sutton also in his "Surgical Diseases of the Ovaries" goes pretty fully into the subject. There are also numerous individual cases reported in the medical journals.

De Sinety in 1875 was one of the first to call attention to the relative frequency of cystic ovaries in children. The investigations of Kissel in 1891 showed these to be mostly of the nature of cystic follicles, and pointed out that they were rare after the first year and were not to be confounded with adenocystomata, which make up a large proportion of the ovarian tumours of later childhood. In 1876 Professor C. Hening published an important treatise on the "Diseases of the Genital Organs in Children," and alluded to ovarian disease in childhood. In 1888 Alban Doran reported the occurrence of congenital double ovarian tumours in a seven months fœtus which only survived its birth a few minutes.

Bland-Sutton in his article on Ovarian Tumours in Infancy and Childhood reports 100 cases of ovariotomy in children under the age of 16 years, and gives statistics as to the mortality of the operation.

Howard Kelly, in his instructive article previously referred to, classifies ovarian tumours in children into cystic and solid—the former comprising the adenocystomata, the unilocular cysts and the dermoids and teratomata; the latter, the sarcomata and the carcinomata—and he specially points out that, in the case of children under three years, most ovarian tumours are either dermoids or sarcomata. After that age the large proportion, in fact one-half of all the cases of ovarian disease in childhood which have been reported, proved to be adenocystomata with a few monocysts. Dermoids and teratomata, he points out, are usually small or medium in size, or affect only one loculus of an adenocystoma. As to the question of differential diagnosis this is always difficult, cystic kidney, sacculated peritoneal exudation, hepatic and hydatid cysts being the conditions most likely to be mistaken for ovarian tumours. Retroperitoneal disease is not so likely to lead to difficulty, being generally a fixed sarcomatous tumour with a broad base springing from the pelvis. The most interesting part of Howard Kelly's article, however, is a very full list of operations for ovarian disease performed in children. From this one sees that under the age of four years the mortality has been 50 per cent. uninfluenced by the nature of the tumour. In older children the prognosis is good, though here, of course, the nature of the tumour is of importance. The list comprises 126 cases. Of these, 55 were cysts, multilocular or unilocular, with four deaths; 47 were dermoids, with ten deaths; of solid tumours there were 24, with eight deaths. Of the cysts, the youngest patient is one described by D'Arcy Power in 1898. The age was four months, the cyst was large but unilocular, with a long, thin pedicle, and the little patient made a good recovery. The next four mentioned are one by Alcock in 1871; a multilocular cyst with adhesions, in a little girl of three years. Death followed the operation. Another by Boldt in 1888, a suppurating cyst in a little girl of four years, a fatal result ensuing; a third fatal case by Boer of New York, in a child of four years; and, finally, Schwartz removed an adenocystoma from a child of four years with a good result. With one exception, in the case of a girl of nine years, all the other 51 patients recovered, they being all children over four years of age.

From the foregoing it will be seen that the case here recorded presents various points of interest. 1. The age of the patient at the time of operation was 11 months, the tumour having been first noticed at the third month. D'Arcy Power's case is therefore the only younger case recorded, the patient being four months old at the time of operation; but in his case the cyst was unilocular, with a long pedicle, and was easily removed through a small incision. 2. The enormous size of the tumour and the fact that though it formed one mass it was in reality made up of two multilocular cysts with flattened sides attached the one to the other by loose connective tissue, thus raising the question of its being a double ovarian cyst; the state of the child at the time of the operation prevented investigations being made as to the presence or state of the other ovary. 3. The retroperitoneal position of the tumour, as shown by the appendix, cæcum, and ascending colon lying in front of it and stretched over its surface, and the fact that the posterior layer of the peritoneum had to be torn through in order to enucleate the tumour. As Kelly states, such a position points to the tumour being sarcomatous and directly contra-indicates an ovarian origin. 4. The uneventful recovery of so young a child from such a severe operation.

Edinburgh.

A FURTHER NOTE ON RINNE'S TEST.

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IN the preliminary note on Rinné's test which I contributed to THE LANCET[1] six primary divisions into which I suggested that Rinné's test should be subdivided were given; perhaps the whole intention was not sufficiently clear. The subdivision was not done with the idea that other means of subdividing the test would not be found, perhaps more easily applicable than those I suggested, and the reading of Dr. D. M. Mackay's letter,[2] referring to the means adopted by Professor Politzer of diagrammatically expressing the variations which might occur, has much interested me. For purposes of comparison I think, however, they will prove themselves very suitable. It is my belief that the terms "negative" and "positive" are themselves somewhat confusing, as there is no guide to enable the casual employer of these tests to remember accurately or definitely what is negative and what is positive Rinné. There are not wanting evidences to show that we are gradually tending more and more towards a re classification of diseases of the middle ear. We are coming more and more to regard obstruction of the Eustachian tube, with its resulting conditions of adhesive processes, hypertrophic thickenings, and fixation of the ossicles (short of bony ankylosis), as primarily the same disease, its varying symptoms being due to relative intensity of, and its subjective symptoms especially due to extension inwards of, the same pathological condition.

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[1] THE LANCET, Feb 23rd, 1907, p. 505.
[2] THE LANCET, April 13th, 1907, p 1040.

Rinné α.—This subdivision includes all cases in which the bone conduction is normal, and in it the acoumeter is diminished while the voice is heard relatively well. The acoumeter is diminished in proportion to the loss of air conduction; the whisper is much reduced, but tuning forks are heard through the whole scale. Such cases are due to Eustachian obstruction, combined in the graver instances, as shown by increased loss of air conduction, with a certain amount of middle-ear disease. The completeness of the loss of the whisper, with a normal bone conduction, is, I believe, against the disease being one of primary nerve lesion. In rare circumstances one will find also examples of otosclerosis coming under this and the next headings, cases which stand midway between the increased and diminished bone conduction groups of this disease.

Rinné β, in which bone conduction is normal, air conduction absent, with a Rinné negative, appears to me to be a rare condition in which some gross lesion of the internal ear has occurred, but in which at least the middle part of the cochlear terminal division of the auditory nerve has escaped complete destruction.

Rinné γ, with bone conduction increased, air conduction normal, and a Rinné positive result, will yield cases of which the greater proportion will be early cases of otosclerosis having a plus bone conduction, though it is also possible that subacute inflammations of the middle ear may at times give this result, if the inflammation is confined largely to the region of the promontory. The latter condition, however, does not appear to be equally frequent with the former.

Under *Rinné δ* we have a large group of cases in which will be found a certain proportion yielding a positive result, though the majority will be Rinné negative. In these, the greater the increase in bone conduction the greater proportionately will usually be the loss in air conduction. The acoumeter will be diminished, the whisper generally almost lost, and the voice diminished, all in proportion to the loss of air conduction, and there will also be a loss of one or more octaves in the bass. In some instances the whole of the bass will be lost and at times the highest octave in the treble, whilst paracusis Willisii is a frequent symptom. Thus Rinné δ is pathognomonic of otosclerosis without further testing, in that form probably in which there are patches of rarefying osteitis in the labyrinthine capsule, fixation of the stapes in the oval window in these cases being indicated by a higher grade loss of air conduction.

Rinné ε.—In these cases the bone conduction is reduced, whilst the air conduction remains normal, the voice is but slightly interfered with, and there is but little interference with the tuning forks as heard by the air—that is to say, that although there may be general diminution, yet they are all heard, but the whisper is reduced, together with the acoumeter, the reduction in both being practically equal. As these conditions are rarely complained of or come before the aurist until the loss in bone conduction is at least ten seconds, I consider that they should be classed as early nerve lesions.

Rinné ζ.—These cases will, as I suggested in my preliminary note, like the δ group, be found to consist of cases yielding sometimes positive and sometimes negative results. The great majority of the slight cases is due to Eustachian obstruction with a negative reaction, with pronounced involvement of the middle ear, and I consider that, as a regular rule or hypothesis, one may assume that when the loss of bone conduction is over ten seconds a nerve lesion has become definitely established, as is also probably the case when the result is positive and the loss of bone conduction is less than ten seconds. The remaining cases present in this group are those of otosclerosis in which the bone conduction is minus. In other words, we have in this last group cases showing early involvement of the nerve elements secondary to middle-ear affections or obstruction of the Eustachian tube, many cases in which the nerve cannot be proved to be definitely involved, together with a large group of grave cases of otosclerosis.

Cases may present themselves, occurring chiefly under the ζ, and sometimes under the α, which belong to an entirely different category from any of those which we have seen and to which I have alluded elsewhere.[3] I refer to that class of cases in which neurasthenia has exerted a considerable influence. Group ζ may be extended so far that air conduction is entirely absent. These will be cases of gross nerve lesions. In the same way, under δ, one can find cases in which the air conduction is also entirely lost, the most advanced stage of that description of otosclerosis, cases of long-standing and in elderly people.

Having now thus far expressed my views as to the conditions which occur in the various subdivisions, it is quite evident that without a careful record as to the relative proportions of loss or increase in the bone conduction to the air conduction, Rinné's test alone is of small value, and that the advances which have been made in the instruments we have for testing hearing and the increase in our knowledge necessitated a further subdivision of the test, and its definite alteration into a proportional test. It is also shown, I think, that the more one devotes oneself to the study of these problems the more conclusively one can state the conditions present; but it seems to me it must be admitted that it demonstrates with equal clearness the need for a further test for differentiating between early nerve cases and slight affections of the middle-ear consequent upon or following Eustachian obstruction. Pathological research, combined with accurate estimation of the hearing powers, will no doubt shed light on some of the more abstruse questions but until these investigations have been made, and their results digested and assimilated, hypothesis must frequently take the place of fact.

Harley-street, W.

"CONGENITAL PILES."

NOTES ON THREE CASES IN WHICH A PILE LIKE CONDITION WAS NOTICED FROM BIRTH.

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SURGEON TO OUT-PATIENTS, CHILDREN'S HOSPITAL, BIRMINGHAM.

SINCE both external and internal hæmorrhoids are very rarely seen in young infants it appears to me to be worth while to place on record three cases of a pile-like condition which I have observed within the last 18 months in my out-patient practice at the Children's Hospital, Birmingham. These children were from 11 weeks to four months and the trouble was in each case stated by the mother to have existed from birth. I have seen also a fourth case in a child, aged two years, but as its similarity to the other three cases is somewhat doubtful I am not describing it here.

Although the disease is a trivial one, consisting of a single pile-like tumour of about the size of a large pea in the exact mid-line at the anterior margin of the anus, I am nevertheless inclined to think that we have here something of the nature of a congenital malformation rather than an outgrowth originating in a dilated venous radicle. The tumour occupies a situation on the perineum, encroaching on the anal canal, but in no way situated within it as is to some extent an external hæmorrhoid. I have seen one case of a thrombosed external hæmorrhoid in a child, aged three months, but it in no way resembled these cases, while the cutaneous tabs left by external hæmorrhoids are generally numerous and situated nearer the anal passage than the cases I am now describing. When snipped away with scissors very little bleeding results and the growth is seen to consist of fibro-fatty tissue. In one case ulceration was present and had destroyed a considerable portion of the growth. In the other two cases there was no ulceration or œdema and no fissure was present in the anal passage in any case. There were no signs of syphilis or malignant disease in any of the cases. In one case the anus was definitely narrowed, scarcely admitting the little finger, a fact supporting the congenital theory.

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[3] West London Medico-Chirurgical Journal, 1905.

CASE 1.—The patient was a male child, aged 11 weeks. There was a tumour of the size of a large pea, soft in structure and not inflamed, situated at the anterior margin of the anus, its posterior margin being flush with the anal canal. The latter was slightly narrower than normal, and I dilated it with the finger. The mother stated that the little lump had been present since birth and was giving the child pain. It was removed with scissors.

CASE 2.—The patient was a female, aged four months. The tumour was situated in the same place as in Case 1 and was of about the same size. It was partially destroyed by ulceration and was somewhat indurated for the same reason. No stricture of the anus was present. The growth was snipped off.

CASE 3.—The patient was a female, aged 11 weeks. The pile was in the same place and was of about the same size as in the other two cases. Its structure was perfectly healthy and consisted of fibrous and adipose tissue. It was snipped off, as the mother complained of the pain which it was causing the child. I put this down entirely to her imagination, as there seemed no reason for painful symptoms to be present.

I think these cases deserve some distinctive title because they appear to me to be unlike any pile or anal tumour which I have seen described in text-books on rectal or general surgery. The tumour is single, median, exists from birth, is composed of quite healthy tissue, unless secondarily inflamed, and is not associated with any other morbid condition which might have produced it. The term "*hæmorrhoid*" is hardly suitable if it has not originated in a blood-vessel but it might well be designated the "congenital pile," since, as far as I am aware, no such condition has been hitherto described.

Birmingham.

A CASE OF TUBAL PREGNANCY ASSOCIATED WITH OVARIAN CYST.

BY E. G. EMERSON ARNOLD, M.B., B.S. DURH., M.R.C.P. LOND.,

COLONIAL MEDICAL SERVICE, FIJI; FORMERLY SENIOR OBSTETRIC HOUSE PHYSICIAN, ST. THOMAS'S HOSPITAL, AND REGISTRAR TO THE HOSPITAL FOR WOMEN, SOHO, LONDON.

So long as the etiology of ectopic gestation remains obscure and the influence on its production which other morbid conditions of the pelvic organs may exert is undetermined, it seems desirable to place on record any example of the condition which presents at all uncommon features. This consideration prompts me to report the following case, to the recital of which some added interest and some excuse for its shortcomings may also, perhaps, attach from the fact that it is a record of work carried out under many disadvantages in a remote part of the world.

The patient was a European woman, aged 27 years, and had been married for six years. She had had no children but there had been one pregnancy some four to five years ago which resulted in an abortion at the third to fourth month. After that she suffered from symptoms suggestic of pelvic trouble and was twice curetted in a hospital in Sydney. I first saw her in August, 1905, when she consulted me for pain in the back and left iliac region and for irregular menstruation. On bimanual examination at that time I found that the uterus was normal as to size and position but with its mobility slightly impaired, and movement of it by the examining finger applied to the cervix caused some pain. The right appendages appeared to be normal. The Fallopian tube could be rolled between the fingers and felt of natural size, while the ovary could be well defined and showed no enlargement. On the left side the ovary lay rather low and was slightly tender, though not apparently enlarged, but the tube felt thicker than normal and its palpation elicited pain. A diagnosis of chronic salpingitis of the left side was made and rest, hot douches, and other palliative measures were advised, as neither general nor local conditions seemed to warrant operative interference. The symptoms subsided under this régime and after a few months the patient ceased to regard herself as an invalid, though I impressed upon her the necessity for care as to chill and fatigue and at the menstrual periods.

I did not see the patient again until April 15th, 1906, when I received an urgent summons. On arrival I found that whilst dancing on the previous evening she had been very suddenly seized with acute pain in the left iliac region and had fainted. She had been put to bed and hot fomentations applied by her husband, when the pain soon ceased and she fell asleep. She was awakened, however, in the early morning by a return of the pain which again subsided. Inquiry elicited the facts that after unusual freedom from the former symptoms for some months and fairly regular menstruation, there had been complete amenorrhœa for six weeks. She had not, however, supposed herself pregnant as the catamenia had been irregular before. The breasts were slightly full and a drop of clear fluid could be expressed from the nipples. Bimanual examination, conducted with great gentleness, revealed a rounded swelling on both sides of the pelvis, the exact limits of which, as also the size of the uterus, I did not attempt to define accurately in view of the undesirability of bringing pressure to bear on the parts. The cervix was not noticeably soft. The os was not dilated and there was no vaginal hæmorrhage. The left rectus muscle was rigid but the abdomen was otherwise natural on gentle palpation. There were no general constitutional symptoms and the pulse and temperature were normal. A diagnosis of tubal pregnancy, probably unruptured but commencing to abort, was made; and surgical measures on the spot being out of the question, the patient was immediately removed with great care to the centre of the district where there is a plantation hospital.

Abdominal section was performed as soon as the necessary preparations could be completed, two European (unqualified) plantation hospital superintendents helping me as anæsthetist and assistant. An ovarian cyst of the size of a tennis ball was then found on the right side and an unruptured tubal gestation on the left. The abdominal ostium of the gravid tube was patent but not patulous, and a very small quantity of recent clot was lying amongst the fimbriæ. The right Fallopian tube appeared healthy, though it and the cyst were somewhat adherent to surrounding parts. The pregnant tube also was bound down by adhesions, some of them dense and obviously of old standing. The corresponding ovary was to all appearances normal. The tumour on the right and the swollen tube on the left were separated and removed in the usual way, but the ligatures were so applied as to leave *in situ* the right Fallopian tube and the left ovary, as neither showed any obvious lesion. During separation of the adhesions the cyst wall ruptured and there was some escape of its clear fluid contents into the peritoneal cavity. Some oozing occurred from the pelvic floor where adhesions had been separated and was not completely checked by douching with hot sterilised saline solution. With a bad light this led to considerable and annoying prolongation of the operation. It was ultimately stopped by sponge pressure and the application of adrenalin solution, though the action of the latter was somewhat disappointing. As in spite of a strong full pulse there was no sign of bleeding when the sutures had been put in, the abdominal wound was completely closed. The operation was well borne, recovery was rapid and uneventful, and the patient is now, one year later, in excellent health and menstruating regularly.

Only naked-eye examination of the parts removed wa possible. The ovarian tumour was unilocular and had th usual appearance and relations of an oöphoritic cyst moderate size. No corpus luteum of pregnancy was visib on section of the unaltered part of the viscus. The grav tube on section showed a typical tubal mole. The amnio cavity was distinct, but no embryo could be discerned. T mole was of rounded shape, of about the size of a la walnut, and situated at the junction of the middle and o thirds of the tube.

It would have been easy, indeed far easier, to remove healthy right tube and left ovary; but I venture to thi was good practice to leave both. A premature menopau always undesirable and particularly so in a climate w though healthy for the tropics, seems to have a spe trying effect on the nervous system. Moreover, it think, been shown that an ovum from one side ca its way to the Fallopian tube of the other. The should thus be not hopelessly debarred from natural hood, and the chances of further disease or accident to me insufficient to justify the sacrifice of apparently organs.

Was the ovarian cystoma a mere coincidence or ha influence in determining the intratubal detention ovum? I felt no trace of it at the examination m months previously, and as I was then able to pal ovary distinctly I can confidently state that it did not then exist in tangible form. Both history and vaginal examination pointed to prior salpingitis of moderate degree of the tube which became pregnant, while the healthy right tube adjacent to the tumour was free. Increased vascularity of the pelvic viscera consequent upon the pregnancy would doubtless explain the rapid growth of a previously small, or even latent and potential, cyst in the ovary.

Improved methods of diagnosis and more frequent operations have demonstrated that extra-uterine cyesis is by no means so rare as was thought at one time; and diversity of race and modes of life would not seem to have much influence on its frequency. During three years' official and private practice in this particular district of Fiji, among a limited but polyglot community, I have met with three other instances of it besides the one here related. The diagnosis was confirmed in two of these cases by operation after rupture and in the third post mortem, the patient having succumbed immediately after admission to hospital. In each case the Fallopian tube was the site of the pregnancy.

Some authorities have denied that prior salpingitis is an etiological factor, considering that a healthy tube is more likely to become the nidus of an ovum than one the lining membrane of which is altered by disease. But the frequency with which a clear history of former tubal inflammation can be obtained from the subjects of ectopic gestation is so great that it is difficult to resist the conclusion that it must play an important if not essential rôle in the production of this abnormality. Out of a good many cases of the kind which I saw in the past at hospitals in London with which I was connected I cannot call to mind one of which this was not true and my four patients have all had a history indicative of former tubal disease. Of these women one was, like the subject of this paper, a European; the others were Hindu coolies (indentured immigrants). The latter class do hard outdoor work in the sugar-cane fields in all weathers and gonorrhœa is very prevalent among them. I have successfully removed suppurating Fallopian tubes from three of them in this part of Fiji and I have seen many others with symptoms and physical signs of salpingitis. I have not met with a case of ectopic gestation in a native woman, and I do not think that one has ever been observed. Their disinclination to apply for European medical aid would, however, account for this; and inquiries among them lead me to think that the Fijian woman is, like her sisters of other complexions and in other lands, occasionally the victim of this catastrophe.

Labasa, Vanua Levu, Fiji.

ON THE

VALUE OF THE HIGH-FREQUENCY SPARK AS A LOCAL APPLICATION.

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IN July, 1904, a medical man came to me to ask if I would apply the high-frequency current to his head for alopecia areata. He had suffered from this for several years and had tried everything ever suggested for this disease and concurrently had consulted and followed the advice of most of the more eminent dermatologists in England and abroad. I, of course, consented to do so, stating at the same time that I did not expect much good would result. I used a vacuum glass electrode connected to the top of the resonator, rubbing the electrode over the bald patches until a bright erythema was produced, which in this case did not take more than three or four minutes to each patch. Treatment in this manner was carried out three or four times a week for about three weeks and was then interrupted by the summer holidays. In September the patches were much smaller and fine hairs were seen to be growing in from the edges of each patch. Treatment was resumed, though not quite so frequently, for a little over two months. Hair was then growing vigorously all over the previously bald patches and by the end of the year the patient had a splendid head of hair which has maintained its good condition ever since.

From subsequent experience I have learned that the success obtained in this case was in all probability due to the ease with which hyperæmia was produced, and according as this is easy or difficult one can predict with a fair amount of certainty how far one is likely to be successful in any given case. In one case that I worked at vigorously for quite two months no good was done and the production of hyperæmia was most difficult, requiring severe sparking for a long time, and it faded away very rapidly afterwards.

In ordinary and premature alopecia, so long as the hair bulbs have not disappeared by atrophy and provided a good hyperæmia can be easily induced which persists for some hours after each application, much good of a lasting kind can be done and it is a method of treatment which ought to be in much more frequent use.

I am of the opinion that in the high-frequency spark we have a most valuable form of local stimulant which seems to have properties peculiarly its own and one the action of which is under perfect control in the hands of a person accustomed to its use. In this connexion I may say that I have employed it in an old-standing case of acne vulgaris and the rapidity with which the unsightly spots disappeared after some half-dozen applications was as surprising as it was satisfactory. The cure was, of course, not permanent, but with occasional applications the disease is easily kept under control and the method is found much more agreeable to the patient than those usually employed.

Another most valuable application of the high-frequency spark is in the treatment of port-wine marks. My first case was that of a young man who came to the London Hospital with a deep red patch of about the size of a penny on his right cheek. As I had been trying to do some good in similar cases by means of a fine galvano-cautery and by electrolysis, with indifferent results, I decided to try the high-frequency spark. For this purpose I used a metallic point electrode mounted on an insulated handle and connected with the top of the resonator. The point was held about one inch from the surface so that a hot white spark jumped across the intervening space. This was continued for several minutes until vesication was produced over the entire surface of the patch. There was no soreness afterwards worth mentioning and in about eight days the old epidermis peeled off, leaving a smooth surface, pink from the remains of inflammatory reaction, but otherwise quite like normal skin.

Another case was that of a young woman with several small stains scattered over the left side of the neck and lower jaw. Gentle treatment being desired I used a vacuum glass electrode, holding it about half an inch from the skin. This method is a more comfortable one but is not so efficient and takes a longer time. The result in this case was also quite successful.

In the last two cases the capillary vessels were confined to the superficial layers of the skin, and in all such cases this method of treatment offers little difficulty. Where the vessels extend more deeply vigorous treatment is necessary which may have to be repeated several times. I have now under treatment the most severe case I have attacked by this means. The nævus extends over the side of the neck, the cheek, the orbit, the side of the nose, and the upper lip. It is, or was, of a vivid red colour which was only partially removed by pressure. The case was one much too extensive to treat by any of the ordinary methods and I am not at all sure that the high-frequency treatment will be completely successful. The fact remains, however, that each application to any given part is followed by the removal of more or less of the redness, after the resulting inflammation has had time to subside. In those parts which have been treated twice—full time for complete subsidence of the inflammation being given after each—the redness is reduced by at least one-half. The patient is greatly encouraged and after going over these parts a third time it is believed that the discolouration will be so far reduced as no longer to constitute a serious disfigurement.

From such experience as I have had I have no hesitation in saying that port wine stains or marks, which at times constitute a very serious disfigurement, can be entirely removed by this method when they are only of moderate depth and extent, while the more severe cases can be at least very greatly improved.

A great advantage of the method is that the normal texture of the skin is quite unimpaired—there is nothing approaching a scar—thus differing from chemical agents and electrolysis. A further advantage is that it is under the most perfect control and no further reaction takes place than is desired.

Queen Anne-street, W.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Ligation of the Renal Vessels for the Cure of Persistent Urinary Renal Fistula, with One Successful Case.—A Case of Cervical Myelopathic Trichosis.

A MEETING of this society was held on May 28th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Major M. P. HOLT, R.A.M.C., read a paper on Ligation of the Renal Vessels for the Cure of Persistent Urinary Renal Fistula, with One Successful Case. He said that there were certain conditions of a patient with persistent urinary renal sinus when nephrectomy, in the absence of the usual contra-indications, was legitimate; but it was recognised by all authorities that in such patients nephrectomy, by reason of extensive matting of the kidney to certain surrounding structures, might be quite impossible or extremely hazardous, then the fistula must remain and the patient might have the prospect of accelerated death, or at best a miserable existence. Just four years ago a case of this kind came under Major Holt's care. Six months previously the patient had sustained a ruptured kidney and most extensive far reaching suppuration had occurred; during the next two years four separate attempts were made to perform nephrectomy, the difficulties were extreme, and on each occasion the operation had to be abandoned owing to furious hæmorrhage, so much so that further attempts were considered unjustifiable. Then it occurred to Major Holt that supposing the secretion of urine into the abscess to be the sole hindrance to healing, if permanent cessation of urine secretion on that side could be effected by ligature of all the renal vessels, then the abscess should rapidly and completely heal. No reference to any such procedure could be found in any available surgical literature, but the evidence of physiological laboratory work distinctly favoured the reasoning so far as concerned the secretion of urine. Accordingly, on June 13th, 1905, just two years and nine months after the original injury, during which time the patient had been slowly but surely losing ground, the renal vessels on that side were ligatured through the transperitoneal route. The operation was a complete success; within five days urine ceased to be present in the discharge and by the fifty-seventh day (August 9th) the sinus had completely healed. The patient has remained quite well since, now nearly two years. It was suggested that ligation of the renal vessels was preferable to any form of subcapsular piecemeal nephrectomy or morcellement, in that it presented none of the risks of the latter, and as effectually but more rapidly and more surely brought about a cure and that it deserved a further trial in suitable cases. The operation was very simple and was aseptic, in great contrast to nephrectomy under such conditions.—Mr. A. E. J. BARKER regretted that he had not known of this method previously, for had he done so he felt certain that he would have been able to benefit some patients whom he had failed to cure. He mentioned the case of a man who after an injury developed a hydronephrosis. An attempt to remove this was unsuccessful and subsequently the operation was attempted by another surgeon but the patient died under the operation. He thought this was a case in which the operation performed by Major Holt would in all probability have been successful.—Mr. STEPHEN PAGET pointed out that the ligature of the renal vessels left in the body an organ which though it had lost part of its function yet might still serve that which was concerned with internal secretion.

Sir WILLIAM R. GOWERS showed a patient with Cervical Myelopathic Trichosis. He said that the occasional occurrence in spina bifida occulta of a growth of hair across the lumbar region was pointed out by Virchow, Fischer, and von Recklinghausen. The facts had been described in an exhaustive lecture by Mr. J. Bland-Sutton.[1] The case which was now brought forward was one of similar trichosis in the cervical region, but it was unilateral and associated with unequivocal symptoms of cervical syringomyelia on the corresponding side. The patient was 41 years of age. The right arm and leg had always been a little weak, but the power in the arm began to lessen three years ago, and the weakness steadily increased, accompanied by rigidity and such excess of the wrist and other jerks that a clonus could be obtained in the flexors by pressing the fingers back. The weakness of the leg was slight, but it had always been a little smaller and less strong than the other and presented excessive knee-jerks and foot-clonus, the left being normal. Sensation on the leg and arm was perfectly normal and also on the trunk below the level of the shoulder. The spinal column seemed normal throughout, even in the cervical region. The lumbar region was free from hair; there was little on the skin in general. The cervical growth of hair occupied a triangle, of which the inner side was along the middle line of the spine from the sixth cervical to the third dorsal; opposite the first dorsal it extended nearly two inches from the spine. The hair was about an inch long and had existed all the patient's life. From the middle line a band of analgesia extended outwards from the fifth, sixth, and seventh spines to the shoulder, ceasing at the outer part of the clavicle. Sensibility to touch was unimpaired. Sensibility was normal to the left of the middle line. These facts pointed to a congenital arrest of development in the spinal cord (syringomyelia) in the cervical region. To this the state of the leg might be also due or to a slighter defect in the lumbar region. The recent development of the weakness in the arm might be reasonably ascribed to increased distension of the cavity or to a gliomatous growth of the adjacent tissue pressing on the pyramidal fibres of the arm. Another case was mentioned, that of a man, aged 26 years, who presented analgesia in the left leg only, with ulceration in the foot, which began in the toes when the patient was 12 years old, and had necessitated their amputation. The lumbar arches seemed intact, although opinions differed on this point, but he was born with an exuberant growth of hair in the lumbar region, bilateral, which was destroyed when he was eight months old by Mr. J. Warrington Haward. The case of cervical trichosis seemed unique in its position and association with evidence of syringomyelia. It seemed unique also in its unilateral character. The case presented a simpler problem than did the association with definite spina bifida. The opinion that the growth of hair was due to a vague process of irritation was without proof, and its explanation as a secondary trophic change was untenable, because it did not correspond in position to the trophic impairment due to the interference with the nerves, and because it was opposite in character, an epidermic nutritional excess, not a defect. The condition pointed to a disproportion between the inner and outer layers of the right neural ridge of the epiblast in the lower cervical region; before it united with its fellow, it split into two layers, the deeper to complete the neural tube for the spinal cord, and the superficial layer to form the epidermis over it. The inner part of the neural ridge thus formed the posterior part of the spinal cord on the side in which the defective development existed and relative excess of developmental energy in the outer layer and defect in the inner layer might be the cause of the condition. Its origin was thus taken back to the early weeks of embryonic life, even when the bones were intact. A notable feature of the cervical case was the fact that the growth of hair was of greatest vertical extent at the middle line corresponding to the edge of the neural ridge of the epiblast. Had the other side been also affected the area of trichosis would have presented a lozenge shape, which was strikingly present in some of the recorded cases of lumbar trichosis in spina bifida occulta.—The PRESIDENT said that he had removed the hair over the lumbar region because of its caudal-like appearance. He did not think there was any deformity of the lumbar vertebræ. There were loss of power in the muscles of the foot and loss of sensation. The ulceration of the toes arose from the fact that the boots were imperfectly fitted and this in association with his loss of sensation rendered the skin especially liable to destruction.—Mr. G. PERNET said that he had never seen a case of hypertrichosis which corresponded to the present case. He referred to some reported cases of hypertrichosis which had been associated with spinal disease. He thought that irritation might be the cause of hypertrichosis; this had been pointed out by various writers.—Dr. T. GRAINGER STEWART referred to the case of a man, aged 26 years, who was admitted to the National Hospital under the care of Dr. J. A. Ormerod. This man developed a spastic weakness of the right hand which gradually extended to the right leg and afterwards affected the left leg. There was dissociation of sensation and the seventh cervical spine was prominent. There was a scar over the back of the neck with one or two hairs. This was due to the removal of a "hairy bag of water" from the cervical region when a child. —Sir W. R. GOWERS replied.

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[1] THE LANCET, July 2nd, 1887, p. 4.

MEDICAL SOCIETY OF LONDON.

Conversazione and Annual Oration.

THE annual conversazione of this society was held on May 27th, the Fellows and guests being received by Sir John Tweedy and Sir Edgcombe Venning, Vice-Presidents. Sir JOHN TWEEDY on taking the chair made feeling reference to the loss sustained by the death of Sir Joseph Fayrer, one of the past presidents of the society.

The annual oration was then delivered by Dr. G. A. GIBSON (Edinburgh), who chose as his subject the Cause of the Heart Beat. He commenced by reminding his hearers that the cause of the heart beat had not been investigated by Harvey, and that Albrecht von Haller was the first to speculate on the subject; but he only suggested that the cause lay in the heart itself. The discoveries of the nervous mechanism of the heart led to some more definite views and Volkmann formulated the conception that the cause lay in the action of the ganglia of the heart. These ideas were subject to some tidal currents of opinion and the ebb and flow of thought were seen in most of the standard works. Gaskell was the pioneer of the great army of workers who in the last quarter of a century had altered the current ideas. He showed that rhythmical pulsation decreased regularly from sinus to apex, and that the rhythmical power varied inversely as the distance from the sinus; that the power must lie in the muscle cells or nerve fibres, since some parts that could be made to beat had no ganglia; that the conduction of the contraction could only be seen when the "bridge" was intact; that the auriculo-ventricular ganglia of the frog could be removed without causing standstill; and that by nerve influence the rhythmicity, conductivity, excitability, contractility, and tonicity might be increased or lessened. In all this it was to be remembered that nervous tissues were present, and Gaskell frankly admitted as much. Carlson, in reviewing Gaskell's work, emphasised this fact and the further fact that no one had proved a direct action of the vagi on muscle. Engelmann followed Gaskell and in a long series of papers strove to prove myogenesis. He had advanced many analogies but no proof of the myogenetic hypothesis. The peristalsis of the ureter, in which he had forgotten the existence of nerves; the contraction of parts of the heart which had no ganglia, in which, however, there was a wonderful mesh of nerve fibres, which Carlson had shown to have more vitality than muscle cells; the beating of the heart after the removal of nervous interference by curare, which, it might be said, we did not yet know much of in regard to its influence on special cardiac nerves; and the arguments from embryology—admittedly the most powerful at the disposal of the myogenesists—all these were fully stated by Engelmann. Engelmann further claimed the law of Bowditch and the refractory period of Marey in favour of his views, ignoring the fact that they were as much in support of neurogenesis. The explanations of Engelmann and other myogenesists were sometimes so contradictory as to cancel each other. In connexion with this matter it might be said that the recent anatomical, physiological, and pathological studies of the sino auricular and auriculo-ventricular connexions (along with their extensions by means of Purkinje fibres) by Tawara and Keith, by Hering and Erlanger, by Stengel and by Dr. Gibson himself, had been claimed as proofs of myogenesis in forgetfulness of the presence of nerve cells and nerve fibres in these connexions. The recent beautiful work of Keith was fully detailed by Dr. Gibson as bearing on this aspect of the matter. Dr. Gibson further expressed the view that a block at the sinus—proved by Hering, Wenckebach, Ritchie, and himself—was clear evidence of neurogenesis, and that juvenile arhythmia and toxic cardiac disturbances were likewise powerful arguments in its favour. He showed how the evidence formerly advanced from the supposed myogenetic peristalsis of the intestine had had to be abandoned, since both on experimental and embryological grounds it had been discovered to be neurogenetic in origin. The researches of Romanes, Schäfer, and Carlson on the invertebrata were detailed, and it was shown that the conclusions to be drawn from them were all in favour of neurogenesis. It was freely admitted that as the heart of an invertebrate was not homologous with that of a vertebrate, such facts could only be used by way of analogy. The recent work of Yandell Henderson on the volume curve of the mammalian heart was described, from which that observer had been led to espouse neurogenesis. In Dr. Gibson's opinion the conclusions were distinctly in favour of those who held the neurogenetic view. The embryological facts could not be claimed by either side, as neither muscle nor nerve was present when the heart began to beat. The anatomical facts did not prove either hypothesis, for nerve and muscle were closely interwoven in the part which served to initiate the pulsation. Pathological evidence could be claimed by both schools of thought. Clinical observations, however, were distinctly in favour of the neurogenetic hypothesis. Beyond a doubt the curious structure recently described by Keith and Flack was that in which the pulsation took its origin, but the esoteric cause of the contraction was undoubtedly a rhythmic discharge from the nervous elements in the cardiac mechanism.

A vote of thanks to the orator was proposed by Sir EDGCOMBE VENNING, seconded by Sir LAUDER BRUNTON, and carried by acclamation.

The meeting then resolved itself into a conversazione.

CLINICAL SOCIETY OF LONDON.

Prolonged Intermittent Pyrexia.—Partial Heart Block.—Foreign Bodies in the Bronchi.—Annual Meeting.

A MEETING of this society was held on May 24th, Mr. H. H. CLUTTON, the President, being in the chair.

Dr. F. DE HAVILLAND HALL read the notes of two cases of Prolonged Pyrexia of an Intermittent Type. The first case was that of a man, aged 44 years, with pulmonary tuberculosis and enlarged glands; the second was that of a man, aged 21 years, with ulcerative endocarditis. After drawing attention to the late Dr. W. M. Ord's list of conditions giving rise to remitting or paroxysmal pyrexia, Dr. Hall pointed out that in practice cases of prolonged pyrexia were more commonly due to tuberculosis and malignant endocarditis than to any other condition. In arriving at a diagnosis family history might be of a certain assistance. On the other hand, a rheumatic family history should suggest the possibility of a rheumatic endocarditis. The past history of the patient would often yield valuable information—as, for instance, attacks of hæmoptysis. The comparative rarity of the association of valvular disease, and especially mitral stenosis, with pulmonary tuberculosis was insisted on. Stress was laid upon the importance of several examinations of the sputum, one or two negative results not being sufficient to exclude tuberculosis.—Dr. SYDNEY P. PHILLIPS remarked that it was the ate Dr. Charles Murchison who, in a classical lecture published in THE LANCET in 1879,[1] first drew attention to the numerous conditions which might give rise to intermitting pyrexia. The late Dr. Ord's contribution to the Medical Society of London was a later and not an improved edition of the same list of causes. Since Dr. Murchison's time a condition of arteritis had been shown by him (Dr. Phillips) to produce intermitting pyrexia; ulcerative colitis was another condition. The diagnosis of ulcerative endocarditis was undoubtedly very difficult and especially its differentiation from latent tuberculosis. Dr. Phillips took exception to the term "hectic pyrexia." The condition which used to be known as hectic fever, such as that which occurred with prolonged suppuration, was one in which the main symptoms were wasting and debility and the attendant pyrexia might be intermittent, remittent, or continued.—Dr. J. WALTER CARR, remarking on the second case, referred to the difficulty of diagnosis of ulcerative endocarditis, especially in cases where there was no previous history or evidence of cardiac disease and he referred to a case in illustration. The patient was an elderly man who presented some ulceration of the gums but no clue as to the existence of infective endocarditis.—Dr. J. G. GLOVER had seen some cases of rheumatic fever giving rise to intermittent pyrexia.—Dr. C. R. BOX referred to another cause of prolonged intermittent pyrexia—namely, chronic posterior basic meningitis. This condition gave rise to temperature charts just like those which had been exhibited.—Dr. HALL replied.

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[1] THE LANCET, May 3rd, 1879, p. 617.

Dr. A. M. Gossage made a communication on Cases of Partial Heart Block. After pointing out that conductivity might be affected separately from the other functions of cardiac muscle, he explained that depression of conductivity showed itself chiefly in the muscle fibres that connect the auricles and ventricles. Depression of conductivity was illustrated by tracings showing a lengthening of the normal interval between the contractions of the auricles and those of the ventricles, and the dropping out of ventricular beats was shown when conductivity was further depressed—e.g., by digitalis or by the action of the vagus. Tracings were exhibited where there were three auricular beats to every two ventricular, two auricular to one ventricular, and three auricular to one ventricular. In the last two cases the patients exhibited the Stokes-Adams syndrome. The nervous attacks of this syndrome were shown to be preceded and accompanied by a cessation of ventricular contractions over a considerable period. Wenckebach had suggested the possibility of a block occurring between the veins and the auricles, and a tracing was shown where two successive ventricular beats had apparently been dropped, a circumstance which could be explained by a block between auricle and ventricle for the first beat and between vein and auricle for the second.

A communication on Foreign Bodies in the Bronchi, by Dr. F. W. Price, was taken as read so as to enable it to appear in the Transactions of the society.

The *ordinary meeting* was then followed by the final annual meeting of the society. The report of the council and the treasurer's statement of accounts were received and adopted. A special general meeting will be held on Friday, June 14th, to wind up the affairs of the society and to inaugurate the Clinical Section of the Royal Society of Medicine

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Devon and Exeter Medico-Chirurgical Society.—*A meeting of this society was held on May 9th*, Mr. G. L. Thornton, Vice-President, being in the chair.—Mr. A. H. Hawkins exhibited a specimen removed post mortem in the hospital from a patient who died from uræmia, where only one kidney had been found, and this was very small and affected with advanced interstitial nephritis. The ureter on the opposite side was found but as far as could be discovered had a blind *termination.—Mr. C. E. W. Bell* reported the following cases, amongst others: 1. A case of Ovarian Tumour which showed marked pulsation which was much lessened on the patient *assuming the knee-elbow* position. It proved on operation to be a single, thin-walled ovarian cyst with no solid material at all. The patient made a good recovery. 2. A case of a married woman who had two children. She had had typhoid fever about six weeks before operation. On the right side was felt a swelling, tense and fluctuating, dull to percussion, slightly moveable, extending into the *pelvis*, and *plainly felt per vaginam* in Douglas's pouch. On operation it proved to be a suppurating cyst (ovarian?). This was incised and the walls were sutured to the peritoneum of incision and the patient recovered. 3. A man, aged 53 years, who in 1894 had a severe accident when cleaning an engine, falling into the cleaning pit. For six months previously to admission he had suffered from gastric symptoms, with attacks of pain and vomiting, and much loss of flesh. The vomit contained free hydrochloric acid and at times consisted of "coffee grounds." There was a distinct suspicion of thickening to be felt to the right and just above the umbilicus. A posterior gastro-enterostomy was performed. No tumour was discovered but the pylorus was *found to be much* flattened and bound down by adhesions. The patient rapidly improved and gained a stone in weight within a month of the operation. 4. A case of *Gangrene of the Leg* with marked diabetes. Amputation was performed through the thigh and the patient recovered. 5. A *case* of a boy who developed Intestinal Obstruction after *receiving* a blow in the abdomen from the handle of a bicycle. On opening the abdomen from 6 to 7 feet of collapsed bowel with adherent flakes of lymph were discovered, and a hole in the mesentery through which this loop *of gut* had slipped, so causing obstruction. The obstruction was removed and the wound was stitched up. The patient recovered. 6. A case of Chorion Epithelioma. The following was the history. The patient was 46 years of age. Two years ago she was under the care of Mr. H. Andrew in the Exeter Dispensary, with an abdominal swelling. This proved to be a *hydatidiform mole. After this* she suffered from considerable hæmorrhage and was admitted into the hospital. About a year ago she had a living child. She came under Mr. Andrew again *for* hæmorrhage one month before her admission into hospital, and *then she* had a uterine tumour of about the size of a cricket ball. It remained about the same size during the month under observation. A few days before admission a *small* nodule was noticed in the posterior vaginal wall. On admission the patient had severe hæmorrhage which spurted out of a small nodule or cyst in the *posterior* vaginal wall. This was scraped out and packed. Later, hæmorrhage took place *from* the bladder, and when this was examined under ether it was found to be involved by ulcerated growths. A nodule also appeared in the anterior wall of the vagina. *The hæmorrhage* continued and the patient died from exhaustion and anæmia. A microscopical examination of scrapings of the post-vaginal nodule *made by Dr. R. V. Solly proved* the case to be one of chorion epithelioma. A post-mortem examination was not permitted.—Dr. Solly showed microscopical specimens. He commented on the case of chorion epithelioma, referring to its pathology and the close relationship of the disease to hydatidiform mole. He further remarked on the connexion of the ovaries with these cases. According to Pick the lutein *cells of the* corpus luteum have an internal secretion, which so acts on the ovum as to cause it to become fixed to the endometrium and there develop, but *if there is an excess of* this secretion, owing to increase in the number of lutein cells, the ovum is over developed and a mole is formed. Cuthbert Lockyer had found that in many cases of chorion epithelioma the ovaries had many lutein cysts and where they were normal to the naked eye, on microscopical examination he had found an increase in lutein cells. Chorion epithelioma was most malignant, and besides having a local malignancy the cell elements were conveyed by the blood stream to the lungs, bones, and other organs. Chorion epithelioma should always be *borne in mind* where hæmorrhage continued after parturition or miscarriage, especially where there were an offensive discharge and elevated temperature, as the growth being so soft and friable was very *liable to be infected* secondarily, and so a sepsis and particularly a streptococcic infection was superadded. The only way to make a diagnosis was by microscopical *section of apparent blood clot.* Another most interesting fact about chorion epithelioma, which might arise from tubal fœtation as well as after miscarriage or parturition, was that tumours *identical* in structure were *found* in males, in *testicles* or intrathoracic tumours, or in the ovaries of women. These arose in connexion with cell seclusions or definite teratomata or teratoid tumours.

North of England Obstetrical and Gynæcological Society.—*A meeting of this society* was held at Leeds on May 10th, Dr. E. O. Croft (Leeds), the President, being in the chair.—The President showed a microscopical specimen from a case of Primary Carcinoma of the Urethra removed from a married woman, aged 37 years, who had complained of painful micturition with soreness and irritation for several months. The growth occupied *the posterior* lip of *the meatus* urinarius and extended three-quarters of an inch down the urethra, destroying the urethro-vaginal septum. Enlarged glands were present in both groins. Complete removal was impossible.—Dr. John B. Hellier (Leeds) exhibited a specimen of Tubal Mole removed from a nullipara, aged 30 years, who had been married four years.—The *President* introduced a discussion on the Treatment of Albuminuria and Eclampsia of Pregnancy. In speaking of pregnancy associated with pre-existing nephritis he urged that the pregnancy should not be interrupted until very thorough general treatment had been adopted, as many patients improved rapidly and completed the pregnancy *without* serious trouble. In considering albuminuria of pregnancy apart from eclampsia he urged the importance of complete recumbency, warmth, milk diet, and *eliminative measures*. The *pregnancy* need not be interrupted until indications were present that the disease was not under control. Spontaneous abortion from death of the fœtus *often rendered operative* interference unnecessary. In the event of the necessity for interference arising he advocated the gentlest method; rapid dilatation and evacuation under deep anæsthesia (especially ether) he considered to be bad practice. The treatment of the pre-eclamptic state required *more* vigorous attention to elimination, and rectal and gastric lavage followed by saline injections and hot packs proved useful. Pilocarpine might also have its use *in* this stage but it was dangerous during the eclamptic attack. Diaphoresis was more safely produced by the *hot* pack. The recognition of the pre-eclamptic stage gave *the* medical attendant time to adopt energetic measures. There was now no doubt that the pregnancy should be terminated by rupture of the membranes. In the absence of convulsions time might be given for dilatation to occur. Accelerative measures might be employed if necessary. The President then discussed the treatment of the eclamptic attack, including (1) the various methods directed towards the elimination of the poison or the control of the actual convulsions; and (2) the obstetric procedures for emptying the uterus. He approved of intravenous or subcutaneous saline transfusion as well as purgation by saline rectal injections and subsequent lavage. He had not found thyroid treatment effectual. For pyrexia he preferred the application of cold rather than the use of antipyretic drugs. He instanced two cases where the patient's temperature rose to 107° F. in a few hours. The operation of renal decortication required further evidence to justify its employment. He did not favour accouchement forcé, nor was Cæsarean section, in his opinion, ever necessary. He did not advocate mechanical dilators on the Bossi principle, preferring the trained and sensitive fingers of the obstetrician.—Dr. Hellier advocated all measures directed toward the elimination of the toxin. He used saline injection and transfusion. He was in favour of the interruption of pregnancy as removing the exciting cause of the toxæmia but did not believe in too rapid dilatation of the cervix and evacuation of the uterus.—The discussion was continued by Dr. David Lloyd Roberts (Manchester), Dr. William Walter (Manchester), and Dr. Alexander Stookes (Liverpool).

Reviews and Notices of Books.

The Practice of Gynæcology in Original Contributions by Eminent Authors. Edited by J. WESLEY BOVÉE, M.D., Professor of Gynæcology at the George Washington University, Washington, D.C. Illustrated with 382 engravings and 60 full-page illustrations. London: Henry Kimpton. 1906. Pp. 836. Price 31s. 6d. net.

IN order to secure breadth of view and a work which shall be of interest not only to the gynæcologist and the surgeon but also to the general practitioner this work has been written by seven gynæcologists under the editorship of one of them. As diseases of the rectum and the bladder are so intimately connected with the various affections of the pelvic organs they are also included. The arrangement of the book is founded upon pathology and bacteriology, so that a departure from the usual order has been made. As in most works which are written by several contributors there is considerable variation in the value of the different contributions.

After an opening chapter on the Examination of the Pelvic Contents by Dr. X. O. Werder follows a chapter on Developmental Anomalies of the Female Generative Organs by Dr. J. Wesley Bovée. The next two chapters on Menstruation and Displacements of the Uterus have been written by Dr. J. Riddle Goffe. The important subject of dysmenorrhœa is treated in very scanty fashion; no reference is to be found to it in the index and we are surprised to see the statement "that in many instances relief is to be afforded by removal of the ovaries and establishment of the menopause." Surely if any such drastic procedures are ever necessary or justifiable in the treatment of dysmenorrhœa the correct treatment would be to remove the uterus and not the ovaries. In the section on Displacements of the Uterus we are told that shortening the utero-sacral ligaments is the latest surgical device for relieving retro-displacements, and being the last in the process of evolution is therefore the best. With this deduction, founded as it is on an incorrect proposition, we disagree entirely. We are glad, however, to see that a few pages further on Pryor's method of causing obliteration of Douglas's pouch by packing with gauze is condemned.

The next four chapters, on Fæcal and Urinary Fistulæ, Lacerations of the Perineum, and Diseases and Injuries of the Vulva and Vagina, are of considerable value. The chapter on fæcal fistulæ deals with a subject which as a rule meets with very perfunctory treatment and is a most helpful one with a number of good illustrations. The difficult question of the operative treatment of ureteral fistulæ is fully gone into and the various operations are well described. In the 40 pages devoted to a consideration of lacerations of the perineum practically all the operations which can be performed for the relief of this condition are described, and this section, as is so often the case in American text-books, is especially full of detail. Dr. Noble does not on the whole approve of Tait's flap-splitting operation, perhaps the most frequently performed of all such plastic operations in this country. Dr. Noble's own operation and the apron operation of Warren, designed as they are to protect the wound from any contamination by the contents of the bowel, seem to us particularly ingenious and we should expect them to give excellent results. We are surprised to find that the necessity for an extensive removal of the whole of the vulva is not insisted on in the treatment of carcinoma of the vulva and nothing is said of the propriety of removing as far as possible the inguinal glands at the same time.

It is difficult to see on what system the various chapters are arranged; thus the chapter on Diseases of the Vulva is followed by one on Sterility, and this in its turn by a chapter on Diseases of the Rectum. The illustrations to this last chapter are of the crudest character and of very little value. Chapters XI. to XVII., on Inflammation of the Uterus, Lacerations of the Cervix, Inversion of the Uterus, and Benign and Malignant Tumours of that Organ, are written by Dr. G. Brown Miller. The section on endometritis contains a good account of this condition, the author being careful to separate from the inflammatory forms of that disease the cases in which the changes in the endometrium are in reality the result of chronic congestion only and are not inflammatory in origin at all. Under the heading of Subinvolution we are surprised to find the incorrect statements that immediately after delivery the fundus of the uterus is half way between the symphysis and the umbilicus and that on the tenth day the fundus is on the level of the upper margin of the symphysis pubis. In the treatment of inversion of the uterus the statement that the use of long-continued pressure on the inverted fundus by means of repositors or tampons is generally useless is hardly accurate, and we would certainly take exception to the statement that the best method of treating a chronically inverted uterus is by a modification of Küstner's operation. In the treatment of fibroid polypi we have never found it necessary to clamp or to tie the pedicle and it is certainly better to incise the tumour than to practise incision of the cervix as is recommended. The descriptions of the operations of abdominal hysterectomy and abdominal supravaginal amputation are not as good as the descriptions of the plastic operations on the vulva and vagina to which we have already referred. The very important question of the mode of spread of carcinoma of the cervix is, we think, inadequately considered in view of the important bearing which it has on the question of the choice of operation. The operation of vaginal hysterectomy is illustrated by a series of illustrations from Dudley's Diseases of Women, which are good, although they illustrate conditions never met with in the actual operation, but unfortunately those illustrating total abdominal hysterectomy by Kronig's method are poor. Two of the most interesting illustrations in the book are those on pages 460 and 461 of the simultaneous occurrence of sarcoma and carcinoma in the body of the uterus.

A special chapter by Dr. Goffe deals with the Vaginal Method of Operating; this of necessity leads to a good deal of repetition. Thus the operation of vaginal hysterectomy is fully described for the second time and so also are other vaginal operations. The technique of abdominal operations is considered by Dr. Werder.

Another instance of the want of method in arrangement is seen in Chapter XXIV., in which is given the anatomy of the Fallopian tubes and ovaries with the diseases of the *Fallopian tubes*, excluding infective processes and extra-uterine gestation which are discussed in a separate chapter further on. Some of the best chapters in the book are those by Dr. T. J. Watkins on Infections of the Fallopian Tubes and Ovaries, the etiology and pathology of the various conditions met with as the result of infective processes being well described, with many good illustrations. The concluding chapters are concerned with Extra-uterine Gestation and Diseases of the Kidney, Ureter, Urethra, and Bladder. The first is written by Dr. Werder and the remainder by the editor. The various affections of the ureter are very fully illustrated and the very excellent drawings from the Atlas of Tandler and Halban have been reproduced with great advantage to the text.

The whole work is, as we have said, unequal in its merits, for it has some most valuable chapters while others are far from attaining the same standard of merit. It contains, however, much information which is not as a rule to be found in the ordinary text-book of gynæcology and should therefore prove of value to practitioners and students.

The Muscles of the Eye. By LUCIEN HOWE, M.A., M.D., Professor of Ophthalmology, University of Buffalo, &c. In two volumes. Volume I., Anatomy and Physiology, including Instruments for Testing and Methods of Measurement. London and New York: G. P. Putnam's Sons. 1907. Pp. 455. Price, *separate volumes*, $4.25; together $7.50.

THE first part of this work is a description of the anatomy of the ocular muscles, their nerve-supply and blood vessels; a short chapter on comparative anatomy and embryology is added. The extraocular muscles are considered in great detail, stress being laid upon the importance of their "secondary" insertions. Whilst admitting the importance of these subsidiary expansions of the tendons it is difficult to assign their limits anatomically and still more so their individual physiological significance. After the elaborate description of the extrinsic muscles it is surprising to find the anatomy of the intrinsic muscles dismissed quite cursorily, though space is found for Iwanoff's antiquated diagrams of the ciliary muscle in emmetropia, myopia, and hypermetropia, diagrams which cannot now be considered to represent constant characteristics. The determination of the position of the lens by a modification of Javal's ophthalmometer and by Tscherning's ophthalmophacometer is discussed. According to the author there are many accessory muscles of accommodation, for they include most of the facial muscles. Much is made of the expansion of the occipito-frontalis fibres into the trapezius—"Later, reference will be made to this fact in connexion with headaches, pain in the occiput, or back of the neck." The ingenuity of the idea is perhaps its greatest merit.

The second part gives a good description of the physiology of the ocular muscles. It is clearly written and is well adapted to the student's needs. Scrupulous care has been shown in eliminating any reference to the bearings of the facts upon clinical conditions, for these will be dealt with in the succeeding volume. We are spared the wild generalisations which so often disfigure the writings of authors upon this subject. We hope that he will continue in the next volume to exhibit the same restraint which is characteristic of the present one. The physiology of the ocular muscles is treated in an orderly and philosophical sequence—one eye at rest, one eye in action but not necessarily in motion (accommodation), one eye in motion, both eyes at rest, both eyes in motion. Specially deserving of praise are the details of the actions of cycloplegics, mydriatics, and miotics, the author's measurements of ocular movements by photography, the descriptions of instruments and methods of measurement, and the relationship between convergence and accommodation. Stress is rightly laid upon the difference between false and true torsion, and the question is divested of many of the ambiguities which have accumulated around it.

There is a good bibliography and the volume concludes with portraits and biographical notes of Brewster, Helmholtz, Donders, Hering, Nagel, Le Conte, Hess, and Tscherning. The book is well printed, though considering the absence of half-tone illustrations it is unnecessarily heavy.

Manual of Anatomy, Systematic and Practical, including Embryology. By A. M. BUCHANAN, M.A., M.D., C.M. Glasg., F.F.P.S. Glasg., Professor of Anatomy in Anderson's College, Glasgow, &c. Vol. II., with 363 illustrations, mostly original and in colours. University Series. London: Baillière, Tindall, and Cox. 1907. Pp. xv.–950. Price 12*s.* 6*d.* net.

THE second volume of Dr. Buchanan's manual continues the regional arrangement adopted in the first and treats in order of the abdomen, thorax, head, and neck, central nervous system, and organs of special sense. Dissection guides to the various regions are appended to each section. The book is quite as comprehensive as many treatises of a more pretentious size. We find the descriptions readable and with a few exceptions they appear sufficient for all ordinary purposes. The arrangement of the book has rendered it necessary to consider the structure of the abdominal and pelvic viscera apart from their gross anatomy, consequently the full description of such viscera as the stomach, kidney, prostate, and so on, is only to be obtained by cross reference, which is a great drawback. For instance, the prostate is described on p. 798, but the description of its sheath, blood-supply, venous plexuses, and intimate structure is found 20 pages further on. The accounts of the development of the various organs are little more than brief summaries. The guides to dissection are of necessity compressed but they are something more than mere skeleton outlines and will subserve their purpose if the student is prepared for a good deal of cross reference. We again draw attention to the fact that they are printed in type which is uncomfortably small and since the book is obviously intended for use in the dissecting room as well as for general reading this objection is of considerable moment.

Seeing that the book is written for medical students, there are some points which call for criticism. Amongst other omissions we can find no mention of the auriculo-ventricular bundle of His, nor are the islands of Langerhans in the pancreas described. The downward extent of the spinal theca is not explicitly given, although it might be inferred from certain statements made. The lymphatics of the stomach, and indeed of several other organs, receive much less attention than their clinical importance demands. The illustrations, which are numerous, are well chosen but are not at all pretentious. The value of the description of the central nervous system is much enhanced by diagrams borrowed from the works of Poirier, Testut, and Charcot. An appendix contains the Basle nomenclature and a useful glossary of terms.

We congratulate Dr. Buchanan on the completion of his task and have no doubt that the book will find its sphere of usefulness.

Liverpool School of Tropical Medicine: Memoir XXI. London: Williams and Norgate. September, 1906. Pp. 118. Price 7*s.* 6*d.* net.

THE first part of this Memoir on African Tick Fever in Whites (caused by infection with the spirochæta duttoni) by Dr. A. Breinl and Dr. A. Kinghorn has already been dealt with at length in these pages.[1]

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[1] THE LANCET, Jan. 5th, 1907, p. 23.

The following papers are also contained in the Memoir. 1. A Comparison between the Trypanosomes Present by Day and by Night in the Peripheral Blood of Cases of Human Trypanosomiasis, by the late Dr. J. Everett Dutton and Dr. John L. Todd. In this paper an account is given of observations made upon the blood of 20 cases of sleeping sickness at intervals of two hours extending over a period of 24 hours in ten of them and at intervals of four hours over a period of 72 hours in the other ten cases. As a control with regard to the possible effect of variations in temperature the blood of a heavily infected guinea-pig was examined after confining the animal in an incubator at different temperatures. No perceptible alteration was found in the number of parasites in blood taken from the ear. The conclusion drawn from the observation is that no marked qualitative or quantitative change, corresponding to day and night, occurred in the peripheral blood of the cases of human trypanosomiasis described in the paper. 2. The Lesions in the Lymphatic Glands in Human Trypanosomiasis, by Dr. R. Howard Mole. The author arrives at the conclusions that in the early stages of "human trypanosomiasis a remarkable and widespread increase of the germ centres in the lymphatic glands occurs, accompanied by a corresponding multiplication of the proper cells of the gland. As the disease progresses the germ centres become less prominent and not so evenly distributed in the gland. This change may be partly due to the formation of the sinus system, and partly to the growth of fibrous tissue and ultimate sclerosis of the gland. Finally, the germ centres are destroyed." There does not seem to be any conclusive evidence in the observations recorded in the paper that the changes in the lymphatic glands were really synchronous with the progress of the disease. In the very few cases dealt with the glands in some advanced cases did not seem to vary materially from those in early cases, while in other advanced cases they seemed to vary considerably. With the recent work which has been done upon leucocytes in view it is impossible to attach any great importance to the observations here recorded as they stand. No really valuable results could well be expected from material preserved in the ways described in the paper, though for these methods the author was not apparently responsible. 3. Concerning Certain Parasitic Protozoa observed in Africa, by the late Dr. Dutton, Dr. Todd, and Dr. E. N. Tobey. This paper is really a collection of preliminary notes. Some interesting observations upon malaria among the natives in the Gambia and Congo Free State are recorded. A peculiar form of onychia very probably due to a certain parasite similar to a spirochæta is described. Several trypanosomes found in different animals are also described in this paper. 4. Attempts to Cultivate Spirochæta duttoni, by Dr. Lewis A. Williams and Dr. R. Stenhouse Williams. The authors' experiments seem to show that while it is possible to keep the spirochætæ alive in defibrinated horse's blood for 28 days and in rabbit's for 25 there is no evidence that the parasites multiply when removed from the body of the host.

LIBRARY TABLE.

Practical Physiological Chemistry. By J. A. MILROY, M.D. Edin., and T. H. MILROY, M.D., B.Sc. Edin., F.R.S. Edin., Queen's College, Belfast. Second edition. London and Edinburgh: William Green and Sons. 1907. Pp. 201. Price 5*s*. net.—To judge of this work fairly we must remember that it is intended to serve as a guide to junior students attending a course of practical physiological chemistry of approximately three months' duration. It consists of four sections. Section I., Qualitative, deals with the usual subjects from organic substances, through secretions to urine—in all I.-XIV. chapters (pp. 1-111); Section II., Quantitative, deals with urine, blood, milk, gastric juice, and so on (pp. 125-169); Section III. is an Appendix on Reagents and Metrical Measures; and Section IV. sets forth Schemes for Detecting an Unknown Substance or Mixtures of Substances of Physiological Importance. We agree with the authors that they may have erred by introducing too much, for after all even a medical student's manipulative powers and memory are limited. The parts not directly suitable for junior students are placed within brackets and there are a goodly number of them. Unlike Professor Halliburton, the authors have adhered to the old proteid nomenclature and have not adopted the suggestions offered by the combined committee of the Chemical and Physiological Societies. The terms sclero-proteins for the familiar albuminoids, and protein hydrolysis for proteolysis have not been adopted. The work is carefully done and we feel sure that anyone following out such a course as is here laid down will have acquired a knowledge not of chemical physiology—for that is one of the most difficult of problems—but of the tests and reactions more especially useful to the medical student and of the quantitative methods that day by day increase in importance.

The Essentials of Histology, Descriptive and Practical, for the Use of Students. By E. A. SCHÄFER, LL.D. Aberd., Sc.D. Dub., F.R.S., Professor of Physiology in the University of Edinburgh. Seventh edition, revised and enlarged. With 553 illustrations, some of which are coloured. London: Longmans, Green, and Co. 1907. Pp. 507. Price 10*s*. 6*d*. net.—The reviewer's task in commenting on a work which has reached its seventh edition is always a light one and in this particular instance it is also a pleasant one, for Professor Schäfer's manual of histology is so well known and appreciated that criticism is superfluous. The present edition has been brought up to date and considerably enlarged, partly by additions to the text, especially to that descriptive of the structure of the central nervous system, and partly by the provision of new illustrations, many of which are coloured in order to give the reader a better idea of the appearance of the stained preparations. The opening chapter on the division of cells should prove of great value to the student as it contains a brief but concise *résumé* of the various forms of mitosis illustrated by excellent diagrams. Again, the chapter on the structure and development of bone is rendered clearer by the illustrations which are now coloured. As already stated, the chapter on the nervous system has been considerably amplified, many fresh illustrations are given, and all recent knowledge is incorporated in the text. The diagrams depicting the course of nerve fibres and tracts in the brain and cord and the probable relations of the cells and their axons are excellent and should prove of the greatest assistance to the student. The author is to be congratulated on the general excellence of this seventh edition of his well-known manual which we feel sure will attain even a greater measure of success than has been enjoyed by its predecessors.

LIVINGSTONE COLLEGE.—Commemoration Day at Livingstone College will be celebrated on June 5th, when the Right Honourable Sir John Kennaway, Bart., M.P., President of the Church Missionary Society, will preside. Short addresses will be given, after which the college rooms will be opened for inspection. The preservation of the health of missionaries and others in the tropics is a matter of great importance and it is for this purpose that the college was founded. Unfortunately, the deficiency of £216 with which the college accounts of the previous year closed has been increased during the last financial year to the sum of £522 and this will be further added to at the close of the present financial year unless liberal help is forthcoming. Cards of invitation to the Commemoration Day proceedings will be sent on application to the Principal, Livingstone College, Leyton, E.

Another instance of the want of method in arrangement is seen in Chapter XXIV., in which is given the anatomy of the Fallopian tubes and ovaries with the diseases of the Fallopian tubes, excluding infective processes and extra-uterine gestation which are discussed in a separate chapter further on. Some of the best chapters in the book are those by Dr. T. J. Watkins on Infections of the Fallopian Tubes and Ovaries, the etiology and pathology of the various conditions met with as the result of infective processes being well described, with many good illustrations. The concluding chapters are concerned with Extra-uterine Gestation and Diseases of the Kidney, Ureter, Urethra, and Bladder. The first is written by Dr. Werder and the remainder by the editor. The various affections of the ureter are very fully illustrated and the very excellent drawings from the Atlas of Tandler and Halban have been reproduced with great advantage to the text.

The whole work is, as we have said, unequal in its merits, for it has some most valuable chapters while others are far from attaining the same standard of merit. It contains, however, much information which is not as a rule to be found in the ordinary text-book of gynæcology and should therefore prove of value to practitioners and students.

The Muscles of the Eye. By LUCIEN HOWE, M.A., M.D., Professor of Ophthalmology, University of Buffalo, &c. In two volumes. Volume I., Anatomy and Physiology, including Instruments for Testing and Methods of Measurement. London and New York: G. P. Putnam's Sons. 1907. Pp. 455. Price, separate volumes, $4.25; together $7.50.

THE first part of this work is a description of the anatomy of the ocular muscles, their nerve-supply and blood vessels; a short chapter on comparative anatomy and embryology is added. The extraocular muscles are considered in great detail, stress being laid upon the importance of their "secondary" insertions. Whilst admitting the importance of these subsidiary expansions of the tendons it is difficult to assign their limits anatomically and still more so their individual physiological significance. After the elaborate description of the extrinsic muscles it is surprising to find the anatomy of the intrinsic muscles dismissed quite cursorily, though space is found for Iwanoff's antiquated diagrams of the ciliary muscle in emmetropia, myopia, and hypermetropia, diagrams which cannot now be considered to represent constant characteristics. The determination of the position of the lens by a modification of Javal's ophthalmometer and by Tscherning's ophthalmophacometer is discussed. According to the author there are many accessory muscles of accommodation, for they include most of the facial muscles. Much is made of the expansion of the occipito-frontalis fibres into the trapezius—"Later, reference will be made to this fact in connexion with headaches, pain in the occiput, or back of the neck." The ingenuity of the idea is perhaps its greatest merit.

The second part gives a good description of the physiology of the ocular muscles. It is clearly written and is well adapted to the student's needs. Scrupulous care has been shown in eliminating any reference to the bearings of the facts upon clinical conditions, for these will be dealt with in the succeeding volume. We are spared the wild generalisations which so often disfigure the writings of authors upon this subject. We hope that he will continue in the next volume to exhibit the same restraint which is characteristic of the present one. The physiology of the ocular muscles is treated in an orderly and philosophical sequence—one eye at rest, one eye in action but not necessarily in motion (accommodation), one eye in motion, both eyes at rest, both eyes in motion. Specially deserving of praise are the details of the actions of cycloplegics, mydriatics, and miotics, the author's measurements of ocular movements by photography, the descriptions of instruments and methods of measurement, and the relationship between convergence and accommodation. Stress is rightly laid upon the difference between false and true torsion, and the question is divested of many of the ambiguities which have accumulated around it.

There is a good bibliography and the volume concludes with portraits and biographical notes of Brewster, Helmholtz, Donders, Hering, Nagel, Le Conte, Hess, and Tscherning. The book is well printed, though considering the absence of half-tone illustrations it is unnecessarily heavy.

Manual of Anatomy, Systematic and Practical, including Embryology. By A. M. BUCHANAN, M.A., M.D., C.M. Glasg., F.F.P.S. Glasg., Professor of Anatomy in Anderson's College, Glasgow, &c. Vol. II., with 363 illustrations, mostly original and in colours. University Series. London: Baillière, Tindall, and Cox. 1907. Pp. xv.–950. Price 12*s.* 6*d.* net.

THE second volume of Dr. Buchanan's manual continues the regional arrangement adopted in the first and treats in order of the abdomen, thorax, head, and neck, central nervous system, and organs of special sense. Dissection guides to the various regions are appended to each section. The book is quite as comprehensive as many treatises of a more pretentious size. We find the descriptions readable and with a few exceptions they appear sufficient for all ordinary purposes. The arrangement of the book has rendered it necessary to consider the structure of the abdominal and pelvic viscera apart from their gross anatomy, consequently the full description of such viscera as the stomach, kidney, prostate, and so on, is only to be obtained by cross reference, which is a great drawback. For instance, the prostate is described on p. 798, but the description of its sheath, blood-supply, venous plexuses, and intimate structure is found 20 pages further on. The accounts of the development of the various organs are little more than brief summaries. The guides to dissection are of necessity compressed but they are something more than mere skeleton outlines and will subserve their purpose if the student is prepared for a good deal of cross reference. We again draw attention to the fact that they are printed in type which is uncomfortably small and since the book is obviously intended for use in the dissecting room as well as for general reading this objection is of considerable moment.

Seeing that the book is written for medical students, there are some points which call for criticism. Amongst other omissions we can find no mention of the auriculo-ventricular bundle of His, nor are the islands of Langerhans in the pancreas described. The downward extent of the spinal theca is not explicitly given, although it might be inferred from certain statements made. The lymphatics of the stomach, and indeed of several other organs, receive much less attention than their clinical importance demands. The illustrations, which are numerous, are well chosen but are not at all pretentious. The value of the description of the central nervous system is much enhanced by diagrams borrowed from the works of Poirier, Testut, and Charcot. An appendix contains the Basle nomenclature and a useful glossary of terms.

We congratulate Dr. Buchanan on the completion of his task and have no doubt that the book will find its sphere of usefulness.

Liverpool School of Tropical Medicine: Memoir XXI. London: Williams and Norgate. September, 1906. Pp. 118. Price 7*s.* 6*d.* net.

THE first part of this Memoir on African Tick Fever in Whites (caused by infection with the *spirochæta duttoni*) by Dr. A. Breinl and Dr. A. Kinghorn has already been dealt with at length in these pages.[1]

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[1] THE LANCET, Jan. 5th, 1907, p. 28.

cases, the tuberculous process readily being grafted upon the simple disease. It may be thought premature that it should employ the term "fibroid phthisis" as the name for the non-tuberculous condition, since the word phthisis is still unfortunately in the minds of many persons connected with the idea of tuberculosis, the most chronic sclerosing forms of this infection being known as fibroid phthisis. Perhaps it might have been better to adopt the general term "pneumoconiosis" or "pneumonoconiosis" which has been coined to indicate fibrotic conditions due to inhalation of dust. We hope, in any case, before very long to see the use of "phthisis" as a synonym for pulmonary tuberculosis abandoned. With regard to the inclusion in the schedule of the malady in question, two difficulties arose: firstly, that of distinguishing the disease caused by the trade conditions from other affections of the lungs which attack all classes of the population; and secondly, the economic effects upon the workmen of adding this chronic malady, which may last for ten or 15 years without causing total incapacity, to the schedule of diseases for which the employer is liable to pay compensation. Regarding the first of these considerations, the committee holds that pneumoconiosis may be distinguished from tuberculosis and from bronchitis with emphysema by characteristic signs. From the former it is differentiated by the absence of fever and of emaciation; and from the latter by the tendency to retraction of the chest and by difficulty in inspiration rather than in expiration, as well as by the appearance of particles of grit in the sputum. This last phenomenon would, however, presumably be encountered in any patient suffering from simple bronchitis who was at the same time working in a dusty atmosphere. Probably if a group of well-marked cases of pneumoconiosis were compared with an equal number of typical cases of bronchitis and emphysema a skilled observer would be able to classify the majority without difficulty into the proper categories, but we are inclined to think that the proportion of doubtful and borderland cases would in actual practice be so large as to render an undesirable amount of litigation inevitable; while if such cases were brought into court a more than usual degree of divergence of scientific medical opinion might be anticipated. It would be interesting to know whether the x rays would be of any value in assisting in the diagnosis of pneumoconiosis, since the particles of dust, being of a mineral nature, should be opaque and should add considerably to the density of the shadow on the screen. The second point discussed by the committee in relation to this affection was the probable economic effect on the workers, since the employer would naturally wish to guard himself against the payment of compensation and would insist on careful medical examination of his workmen, declining to engage any who showed signs of the slightest pulmonary affection. Workmen who have at present the prospect of many years of active work would then be thrown out of employment on account of trivial ailments. It appears to be admitted that the effect of Employers' Liability Acts has already been to render it more difficult for elderly men to get or to keep employment; and in the case of a chronic ailment like pneumoconiosis the effect of adding it to the schedule would almost certainly be to diminish rather than to increase the general well-being of a large number of workers. Hence, the committee wisely decided to omit this ailment from the schedule of the Act. It is interesting to note that the attitudes of the various workmen's trade societies towards the proposal to schedule this disease differed one from another, possibly according to the degree of intelligence demanded by different occupations and the resulting diversity of powers to weigh immediate apparent gain against almost certain loss at a more distant date. The recommendations of the committee itself are founded on justice and common-sense, and so far as it is possible to judge in the absence of the evidence on which they were based we feel confident that they will commend themselves to all who have the welfare of the industrial population at heart.

New Vaccination Legislation.

IN our issue of May 11th we stated that Mr. JOHN BURNS had introduced into the House of Commons a Bill to substitute a statutory declaration for the certificate of conscientious objection required under Section (2) of the Vaccination Act of 1898. The Bill, which consisted of three clauses only, came up for second reading on May 24th, when Sir JOHN BATTY TUKE moved the rejection of the measure, Mr. CAVE, the Member for Kingston, seconding. Both speakers declined to believe that the Bill would effect a settlement of the vaccination question. Sir HENRY CRAIK and Sir FREDERICK BANBURY also opposed the Bill, the former saying that he considered the proposal of the President of the Local Government Board to be a concession to ignorance and prejudice. On a division Sir JOHN BATTY TUKE's amendment was rejected by a majority of 108 in a house of 122 and a motion for the second reading was agreed to without a division. Before the division was taken Mr. JOHN BURNS, in reply to various criticisms of the measure, reminded his hearers that he had indicated that certain alterations would be made in respect to vaccination and that the Bill under consideration gave effect to one of these promises. Another promise was that the cost of vaccination should be reduced. This promise he had been enabled to perform by a Local Government Board Order.

The Order in question, which now lies before us, is dated May 21st. It amends the Vaccination Order of Oct. 21st, 1898, and is founded upon the report of the Departmental Committee which was appointed in 1903 to inquire into the cost of vaccination. Shortly, it may be said that the main result of the Order is to reduce the fees payable to public vaccinators under certain conditions, but also in some ways to make their work less irksome. The Order will come into operation on Oct. 1st. As regards payments the minimum fee of 1*s.* mentioned in Article 3 (1) *a* of the Order of 1898 is not interfered with, but the other payments mentioned in the same article are altered as follows. We quote from the circular issued to guardians dealing with the Order:—

> The Order of 1898 requires that the contract shall provide for the payment to the public vaccinator of a minimum fee of 2*s.* 6*d.* in respect of every successful primary vaccination of any person other than a child or of any successful re-vaccination, where in either case the operation has been performed by him at his surgery or elsewhere than at the home of the person vaccinated. The new Order extends this requirement, so as to include any case of successful vaccination performed by the public vaccinator on a child whose age exceeds 12 months at his surgery or elsewhere than at the home of the child. The parent or person having the custody of the child must, however, have

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LONDON: SATURDAY, JUNE 1, 1907.

Employers' Liability for Industrial Diseases.

THE recently issued report of the committee appointed by the Home Secretary to inquire into the subject of compensation for industrial diseases contains much interesting matter regarding a large number of different affections arising out of trade processes. Many of them are scarcely noticed in works on medicine and are practically known only to those whose practice lies among members of the trades specially affected. The Workmen's Compensation Act, 1906, contained a schedule of certain affections definitely arising from dangerous occupations for which the employer was made liable to compensate his workmen; these affections embraced poisoning by lead, arsenic, mercury, and phosphorus, and infection with anthrax and ankylostomiasis. The reference to the present committee was the selection of other trade diseases which might without injustice be added to this list. Two conditions practically govern the inclusion of any affection in the Act—namely, the length of time for which it renders the patient unable to follow his occupation, any period of illness less than one week falling outside the scope of the Act, and the possibility of recognising the disease as specifically caused by the workman's employment. Further, any affection which could be classed as an accident fell outside the scope of the committee's inquiry, being already covered by the Act. Here a difficulty at once arises, since it is not an easy matter to draw any hard and fast line between a disease or an injury which is due to an accident and one which cannot be so classified. For example, contact with poisonous gases may give rise to sudden unconsciousness and death, or it may, when prolonged, induce a chronic nervous affection. The criterion of an accident rightly adopted by the committee was its sudden and momentary character; and it was thus able to bring within the scope of the Act a considerable number of chronic intoxications incident to industrial occupations. In the present report the committee—the members of which were Mr. HERBERT SAMUEL, the Parliamentary Under Secretary of State for the Home Department (chairman); Professor T. CLIFFORD ALLBUTT of Cambridge; Mr. H. H. CUNYNGHAME, C.B., Assistant Under Secretary, Home Office; and Dr. T. M. LEGGE, medical inspector of factories—classifies the diseases with which it deals into the categories of general poisoning on the one hand and of local affections, involving the eye, skin, lungs, and other individual organs, on the other, and as the result of its labours it advises the addition of 18 new conditions to the schedule of the Workmen's Compensation Act.

Of the forms of general poisoning here dealt with some are already well recognised, such as the affections due to aniline poisoning and those caused by carbon bisulphide. It appears, however, that other benzene derivatives besides aniline may give rise to serious symptoms; for example, dinitrobenzol which is used in the manufacture of explosive agents. The toxic effects result from destruction of the red corpuscles of the blood in the first place, with signs of anæmia and cyanosis, but in more chronic cases the sensory and motor nerve endings are affected and muscular atrophy may ensue. Nitrous fumes may give rise to severe and even fatal poisoning in chemical works, and a dangerous gas, nickel carbonyl, is given off in the process of separating metallic nickel from its ore. An apparently novel disease is that resulting from the use of a poisonous wood from the plant Gonioma Komassi, or African boxwood, which is employed for making shuttles; headache, coryza, lacrymation, and asthmatic seizures occur, produced by the action of a special alkaloid of a very poisonous character, possibly resembling in its action the well-known arrow poison—curare. Among diseases of the skin the committee would schedule the ulceration resulting from contact with chromium compounds and the lesions which are produced by tarry products. Cancer of the scrotum as it occurs in chimney-sweeps is an allied condition which the committee also recommends for inclusion, though here it is possible to feel some doubt as to the correctness of its view, since it is difficult to be certain that careful personal cleanliness would not obviate the danger caused by soot and the employer should not be penalised for the workman's carelessness in such matters. Fortunately, the resulting epithelioma can be removed with reasonable prospect of permanent recovery. Not many diseases of the eyes seem to be directly traceable to injurious occupation, but miners' nystagmus, resulting from working in a constrained position with the eyes turned obliquely upwards, is scheduled, although the committee admits that considerable difficulty may arise in determining the exact amount of incapacity caused in individual instances, since the physical disability is not in all cases proportionate to the visible oscillation of the eyes. Cataract occurring in bottle-makers has been attributed to the action of the heat and light from the furnaces but the committee does not advise its inclusion in the list. Several local inflammatory conditions to which miners are liable are added to the schedule, among them præpatellar bursitis, so that it seems rather hard that the ordinary "housemaid's knee" occurring in domestic servants should be excluded when an almost exactly similar condition in miners is scheduled.

The most interesting section of the report is that dealing with the affections of the lungs which occur in workers in dusty occupations—grinders, potters, ganister miners, and so forth. Some controversy has existed in past times as to the nature of the resulting condition which is characterised by a gradually extending fibrosis of the lungs. This has been held, on the one hand, to be due to the direct irritation of inhaled particles of dust and, on the other hand, it has been regarded as a chronic tuberculous process, the entrance of the bacilli being facilitated by the action of the dust on the bronchial mucous membrane. The prevailing view, as set out by the committee, is that both accounts are true in different apparatus is furnished to every command. Lieutenant-Colonel LEISHMAN indicates also the method of preparing the vaccine, which is practically that of Sir A. E. WRIGHT modified in a few particulars; thus the temperature for killing the vaccine has been fixed at 55° C. instead of from 60° to 65° C. With regard to the objections to the process of inoculation the "local reaction" is now much milder, so that it is no longer necessary to inoculate in the flank, and hence the inoculated does not exhibit pain or stiffness in walking. The inoculation is now made in the arm or in the pectoral region. It is also pointed out that it is importan to carry out the second inoculation, as a higher degree of immunity is afforded by successive doses compared with that which is effected by a single one; a similar result has been noticed by the German army physicians in their Herrero campaign. The dosage of the vaccine has been fixed in the following quantity: one-half of a cubic centimetre of vaccine containing 500,000,000 of the bacteria is employed for the first inoculation, and double this quantity for the second; this amount has been ascertained to give the maximum quantity of protective substances with the minimum severity of reaction at present. With regard to the standardisation of the vaccine it has been found that no accurate measurement of its protective properties can be attained.

Major HARRISON in his paper reports on the results of certain experiments which have been undertaken in connexion with the antityphoid vaccine, such as those with reference to the various methods of killing the cultures by chloroform, heat, alcohol, and toluol, and those dealing with the antitropic substances produced by vaccines prepared in different ways. With reference to the duration of the immunity resulting from the inoculation, it has been ascertained that a bactericidal activity higher than normal and the presence of agglutinins in the serum of the men who have been inoculated last as long as six years, but it is not yet known whether the amount of protection remaining at this period suffices to ward off an attack. Lastly, Major HARRISON deals with the protective action of different vaccines against multiple lethal doses of a virulent typhoid culture. The third article on the subject is by Lieutenant LUXMOORE who contributes some very valuable data on the good effect of the inoculation as observed in an epidemic outbreak in the 17th Lancers at Meerut; this regiment left England in 1905 for India and within a few weeks after its arrival enteric fever broke out in it. The results obtained by the inoculation can really be held to constitute a *test case*, as they were checked by examinations of the blood and by necropsies. Lieutenant LUXMOORE details first the clinical effects of the inoculation, such as redness, pain, tenderness, and lymphangitis, with the general symptoms of a varying malaise, nausea, fever, and headache lasting for 36 hours as a rule but in one case for 48 hours. These local and general symptoms occurred again after the second inoculation but in a much less degree. The immediate source of the infection was not very clear but once started it was carried on doubtless by the agency of flies which were very prevalent until a solution of 2 per cent. crude carbolic acid was sub[illegible] earth in the latrines, when the flies diminished in number together with the cases of admission; by the dust, 25 per cent. of the cases showing marked bronchitis; and by the latrines and urinals. The proximity of the regiment to the native bazaar may also have had a large influence in the causation, while there was a failure of the rains in August and September, hence a large quantity of dust arose. With respect to the influence of the inoculation, Lieutenant LUXMOORE shows that of the 63 cases that occurred 61 were in men who were not inoculated, the remaining two being in men who would not submit to the second inoculation.

The perusal of these three articles can leave but one conclusion on the mind of the reader—namely, that inoculation for enteric fever is in every way as necessary for the protection of the health of the soldier in India as is vaccination against small-pox. Considering the large mortality that has up to the present time resulted amongst our men from enteric fever in the East we sincerely trust that this necessity may be recognised. It is satisfactory to learn that Lord KITCHENER is favourably impressed with the value of the treatment.

Annotations.

"*Ne quid nimis.*"

THE MEETING OF THE GENERAL MEDICAL COUNCIL.

ON Tuesday last, May 28th, the eighty-fifth session of the General Medical Council was opened, Dr. Donald MacAlister, the President, occupying the chair. In the President's address the programme of business was outlined and does not appear to contain as many urgent topics as have been under discussion on some recent occasions. Medical reciprocity with Nova Scotia was announced, certain changes in the formulas of poisonous drugs were foreshadowed in the next Pharmacopœia, a new print of the Standing Orders was made available for public use, and a financial surplus, which *though small* was satisfactory in the circumstances, was declared. The most interesting question broached by Dr. MacAlister referred to the position of members of the Council who are members of the British Medical Association if the Association should decide to act as complainant in any penal cases. The position is a difficult one and will perhaps give rise to debate in the Council.

CORONERS AND DEATH CERTIFICATES.

AT a meeting of the health committee of the Wrexham town council on May 15th the medical officer of health drew attention to the necessity for greater exactness in the certification of deaths, especially those *of infants. The infant* mortality is heavy in Wrexham and district and many children die without having had medical attendance. He regrets that in such cases the *coroner for the district* should issue certificates stating that the cause of death was "probably convulsions," and that when an inquest has been held "the evidence of an untrained and illiterate so-called midwife has been seriously taken as sufficient guarantee that the deceased died of convulsions." He mentioned the fact that "convulsions" was a symptom, not a disease, contrary to the popular notion. As the deadly disease "*spotted fever*" was present in the district and its main symptom was "convulsions" he thought it would be well if the committee would draw the attention of the coroner to the necessity of ascertaining by a post-mortem examination the real cause of death in those cases in which there was no

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> requested that the child may be vaccinated elsewhere than at the home of the child and the public vaccinator must have satisfied himself that the child can be safely vaccinated having regard to Subsection (4) of Section 1 of the Vaccination Act, 1898.

The Order of 1898 requires that the contract shall provide for the payment to the public vaccinator of a minimum fee of *5s.* in respect of every successful vaccination or revaccination performed by him at the home of the person vaccinated. The new Order alters this requirement and directs that the contract shall provide in respect of such cases for the payment of an amount not less than the sums specified in the rules set out on p. 3 of the Order in question. The effect of these rules will be that where the district is situated wholly or partly in London, or in a borough or other urban district with a population according to the returns of the last census for the time being of not less than 50,000, the amount of the payment must in every case be not less than *2s. 6d.*, and that where the district is not so situated the amount must in every case be not less than *3s. 6d.* Elaborate instructions are laid down as to fees to be paid in cases where the public vaccinator vaccinates within a period of 24 hours two or more persons at one and the same home or any premises (other than the surgery of the public vaccinator) where these persons were together present at any time during the period. To quote again from the circular—

> In any such case the amount to be paid to the public vaccinator will be subject in respect of the first person vaccinated or revaccinated to the rules as to the minimum fees above referred to. But otherwise the amount to be paid in such cases must be mutually agreed upon by the guardians and the public vaccinator and approved by the Board, or in default of agreement determined by the Board.

The new Order extends the period within which a public vaccinator must visit a child after due notice given from two weeks to four, so as to give him an opportunity of arranging his visit for vaccination to any home at a time when he may have other professional work in the same neighbourhood. The arrangement of the various forms which the public vaccinator has to fill up has been altered so as to make them somewhat less laborious to deal with. We should add that although the minimal fees payable have been reduced, yet the circular points out to guardians that each case must be considered on its merits as regards the actual fee to be paid and arranged by contract; and the Board states that as regards districts which are only partly situated in London, or in a borough or urban district with a population of not less than 50,000, it is contemplated that a higher fee than the minimum will be fixed if the circumstances of the district in respect of area and population are such that a higher fee should properly be paid. We only hope that the Board's contemplative attitude may be justified, but we do not feel very sanguine on the point. Boards of guardians as a rule are unwilling to offer higher fees to medical men than the law compels them to offer.

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Antityphoid Inoculation in the Army.

Lieutenant-Colonel W. B. LEISHMAN, R.A.M.C., Major W. S. HARRISON, R.A.M.C., and Lieutenant E. J. H. LUXMOORE, R.A.M.C., have in the May number of the *Journal of the Royal Army Medical Corps* respectively contributed three papers on Antityphoid Inoculation in the Army which will well repay perusal. We have already briefly referred to these articles in our "Services" columns, but, as we stated at the time, they deserve more detailed consideration and we take this opportunity of returning to the subject. Lieutenant-Colonel LEISHMAN gives a *résumé* of "antityphoid inoculation" in his introductory contribution. This method, which was brought before the notice of the profession by Sir A. E. WRIGHT in 1897, was at first employed on a large scale in India and Egypt with most encouraging results, but after the Boer war it fell into abeyance temporarily, this being due to the fact that statistical evidence had been found hard to collect and that when collected it was only available for certain units. Such reasons for its abeyance, however, are difficult to understand, for the evidence that was obtained was practically entirely in its favour. During the Maidstone epidemic 84 nurses and attendants were inoculated and *not one was attacked* in contradistinction to 16 seizures amongst 120 nurses who were not inoculated, while the statistics which were obtained from the comparison of the inoculated and non-inoculated in the Boer war showed, as regards the Ladysmith, Princess Christian, Portland, Scottish National Red Cross, Kroonstadt, and Harrismith Hospitals, a much less incidence on the inoculated than on the non-inoculated. We have only to bear in mind these results to come to the conclusion that inoculation exercises a very marked beneficial effect. So far as we have been able to gather, there was only one adverse opinion with regard to the process—that, namely, of the late Dr. J. W. WASHBOURN of Guy's Hospital—and although this opinion must carry great weight from the personality of this distinguished physician still it is somewhat inexplicable when it is considered in connexion with the results which were elsewhere obtained in this war; at any rate, our German *confrères* have not wavered in their belief in the proceeding. Another and more valid reason was that the effects of a "negative phase" in the procedure might involve a possible danger due to the onset at first of a diminished resistance to infection. However, a committee was appointed to investigate the matter, of which Dr. S. H. C. MARTIN was President and Lieutenant-Colonel LEISHMAN was a member, the process having again been permitted after an interregnum of one and a half years, and this committee, which is still in existence, published in 1905 the results of the first portion of its work. This publication dealt with the quantitative tests of the substances that appear in the blood after inoculation and with the determination of the dose of vaccine which produces the greatest quantity of "protective substances" without undue local or general severity of reaction, and also without inducing a "negative phase" of resistance. Two inoculations with an interval of ten days were recommended, whilst it was urged that an officer of the Royal Army Medical Corps should be attached to each regiment going on foreign service. This officer was to undergo a special course of instruction at the Royal Army Medical Corps College and was to remain with the regiment for three years and to collect all information concerning the men who had been inoculated. Eight such officers have since been appointed. Lieutenant-Colonel LEISHMAN tells us that up to the present time 15,000 doses of the vaccine have been sent to India. A senior medical officer supervises the process of inoculation in each command and lectures to the men on its beneficial results, whilst a specially designed case of apparatus is furnished to every command. Lieutenant-Colonel LEISHMAN indicates also the method of preparing the vaccine, which is practically that of Sir A. E. WRIGHT modified in a few particulars; thus the temperature for killing the vaccine has been fixed at 55° C. instead of from 60° to 65° C. With regard to the objections to the process of inoculation the "local reaction" is now much milder, so that it is no longer necessary to inoculate in the flank, and hence the inoculated does not exhibit pain or stiffness in walking. The inoculation is now made in the arm or in the pectoral region. It is also pointed out that it is importan to carry out the second inoculation, as a higher degree of immunity is afforded by successive doses compared with that which is effected by a single one; a similar result has been noticed by the German army physicians in their Herrero campaign. The dosage of the vaccine has been fixed in the following quantity: one-half of a cubic centimetre of vaccine containing 500,000,000 of the bacteria is employed for the first inoculation, and double this quantity for the second; this amount has been ascertained to give the maximum quantity of protective substances with the minimum severity of reaction at present. With regard to the standardisation of the vaccine it has been found that no accurate measurement of its protective properties can be attained.

Major HARRISON in his paper reports on the results of certain experiments which have been undertaken in connexion with the antityphoid vaccine, such as those with reference to the various methods of killing the cultures by chloroform, heat, alcohol, and toluol, and those dealing with the antitropic substances produced by vaccines prepared in different ways. With reference to the duration of the immunity resulting from the inoculation, it has been ascertained that a bactericidal activity higher than normal and the presence of agglutinins in the serum of the men who have been inoculated last as long as six years, but it is not yet known whether the amount of protection remaining at this period suffices to ward off an attack. Lastly, Major HARRISON deals with the protective action of different vaccines against multiple lethal doses of a virulent typhoid culture. The third article on the subject is by Lieutenant LUXMOORE who contributes some very valuable data on the good effect of the inoculation as observed in an epidemic outbreak in the 17th Lancers at Meerut; this regiment left England in 1905 for India and within a few weeks after its arrival enteric fever broke out in it. The results obtained by the inoculation can really be held to constitute a test case, as they were checked by examinations of the blood and by necropsies. Lieutenant LUXMOORE details first the clinical effects of the inoculation, such as *redness*, pain, tenderness, and lymphangitis, with the general symptoms of a varying malaise, nausea, fever, and headache lasting for 36 hours *as a rule* but in one case for 48 hours. These local and general symptoms occurred again after the second inoculation but in a much less degree. The immediate source of the infection was not very clear but once started it was carried on doubtless by the agency of flies which were very prevalent until a solution of 2 per cent. crude carbolic acid was sub[illegible] in the latrines, when the flies diminished in number together with the cases of admission; by the dust, 25 per cent. of the cases showing marked bronchitis; and by the latrines and urinals. The proximity of the regiment to the native bazaar may also have had a large influence in the causation, while there was a failure of the rains in August and September, hence a large quantity of dust arose. With respect to the influence of the inoculation, Lieutenant LUXMOORE shows that of the 63 cases that occurred 61 were in men who were not inoculated, the remaining two being in men who would not submit to the second inoculation.

The perusal of these three articles can leave but one conclusion on the mind of the reader—namely, that inoculation for enteric fever is in every way as necessary for the protection of the health of the soldier in India as is vaccination against small-pox. Considering the large mortality that has up to the present time resulted amongst our men from enteric fever in the East we sincerely trust that this necessity may be recognised. It is satisfactory to learn that Lord KITCHENER is favourably impressed with the value of the treatment.

Annotations.

"*Ne quid nimis.*"

THE MEETING OF THE GENERAL MEDICAL COUNCIL.

ON Tuesday last, May 28th, the eighty-fifth session of the General Medical Council was opened, Dr. Donald MacAlister, the President, occupying the chair. In the President's address the programme of business was outlined and does not appear to contain as many urgent topics as have been under discussion on some recent occasions. Medical reciprocity with Nova Scotia was announced, certain changes in the formulas of poisonous drugs were foreshadowed in the next Pharmacopœia, a new print of the Standing Orders was made available for public use, and a financial surplus, which though small was satisfactory in the circumstances, was declared. The most interesting question broached by Dr. MacAlister referred to the position of members of the Council who are members of the British Medical Association if the Association should decide to act as complainant in any penal cases. The position is a difficult one and will perhaps give rise to debate in the Council.

CORONERS AND DEATH CERTIFICATES.

AT a meeting of the health committee of the Wrexham town council on May 15th the medical officer of health drew attention to the necessity for greater exactness in the certification of deaths, especially those of infants. The infant mortality is heavy in Wrexham and district and many children die without having had medical attendance. He regrets that in such cases the coroner for the district should issue certificates stating that the cause of death was "probably convulsions," and that when an inquest has been held "the evidence of an untrained and illiterate so-called midwife has been seriously taken as sufficient guarantee that the deceased died of convulsions." He mentioned the fact that "convulsions" was a symptom, not a disease, contrary to the popular notion. As the deadly disease "spotted fever" was present in the district and its main symptom was "convulsions" he thought it would be well if the committee would draw the attention of the coroner to the [illegible] of ascertaining by a post-mortem examination the real cause of death in medical man in attendance. He considered the issuing of certificates with such a vague and indefinite term as convulsions not only misleading but a positive danger to the public health. Our readers will be in general agreement with the view taken by the medical officer of health of Wrexham. In such cases as those indicated it seems not only mischievous but absurd for a legal coroner to give what he perhaps thinks is a plausible guess at the cause of death and to direct the jury to adopt it as their verdict. From a statement by the mayor it seems that this coroner "had criticised one of the leading medical men for not granting a certificate, although he had not seen the case before death"—surely, as the mayor remarked, "*a most improper thing to do.*" According to one of the councillors the coroner had given certificates in such cases without holding an inquest. It is only right to add that Mr. Kenrick, the East Denbighshire coroner, at an inquest held at Llangollen on May 21st, made the following statement as to the criticisms which he had received. "I think people who make these remarks ...... criticising my conduct, should, before they speak in public, make themselves thoroughly acquainted with the facts of the case. In no case since I have been appointed as coroner have I issued a notification dispensing with the necessity of an inquest unless I have been previously furnished with the certificate of a medical man stating, of his own knowledge, that the deceased died from natural causes and specifying the actual cause of death." This seems quite satisfactory so far as it goes, but it does not meet the statement which the Mayor of Wrexham is reported to have made that the coroner had criticised one of the leading medical men for not granting a certificate, although he had not seen the case before death.

WORKMEN AND DANGEROUS CONDUCT.

IN writing of the proposed inclusion of "potters' asthma" as an "accident" under the Workmen's Compensation Act in THE LANCET of May 25th, p. 1450, we suggested that the enforcement of the provision of proper safeguards by employers might in many cases be more just than to compel them to pay compensation in all cases of injury regardless of the workman's contribution to his own mishap. The proneness of the workman to neglect or to refuse the use of apparatus provided for his protection when he thinks that it interferes with his convenience is well known. The example given below is not one in which a sanitary precaution was disregarded, but it is one which shows strikingly the reckless manner in which men behave in employments to which they have become accustomed. At a recent inquest held by Dr. G. Danford Thomas at Paddington it was proved that the deceased, a man, aged 44 years, was employed by the Metropolitan Railway Company, having as one of his duties to oil the axle-boxes of the carriages. This he was, of course, expected to do when the carriage was stationary, and as a witness from the company reasonably said, it had never been imagined that anyone would do otherwise, so there were no specific orders on the subject but merely a general regulation forbidding dangerous conduct. The deceased had, however, laid himself flat on the gangway between two carriages of a train in motion, extending himself outside in order to oil an axle-box beneath him. It happened that a train travelling in the opposite direction had had a door accidentally left open or he might have performed his dangerous feat with impunity. As it was, the swinging door caught the man's head, fracturing his skull and killing him. When we find a workman of mature age behaving in this manner we are not surprised to learn that other members of his class are not easily made to acquiesce in protective measures against risks of poisoning or other injury which to us seem obvious but which to them may be shadowy and unreal, and we are prompted to some sympathy with employers who are compelled to adopt expensive safeguards and who (although these are adequate and proper) are also subjected to heavy pecuniary loss if their men obstinately refuse to help to protect themselves. Possibly time and education may bring workmen to adopt a line of conduct more intelligent and more reasonable, but the example of the railway man referred to is hardly an isolated instance of the difficulties with which employers have to contend.

THE HOME OFFICE REPORT OF EXPERIMENTS ON LIVING ANIMALS PERFORMED IN 1906.

A WHITE-BOOK has just been issued dealing with the experiments on living animals during 1906 and shows a satisfactory working of the present Act. The inspector is able to summarise the fitness of the experimenters for their work in these terms. The tables afford evidence that: "1. Licences and certificates have been granted and allowed only upon the recommendation of persons of high scientific standing. 2. The licensees are persons who, by their training and education, are fitted to undertake experimental work and to profit by it. 3. All experimental work has been conducted in suitable cases. The table dealing with the experiments is divided into two parts, containing details of those performed with and those without anæsthetics. In the first group for England and Scotland 1429 experiments have been performed under *licence* alone, in which the animal must be killed before the effects of the anæsthetic have passed off if the pain is likely to continue after this event or if any serious injury has been inflicted on it. 1357 experiments were performed under the various *certificates*, of which 159 were in illustration of lectures, the animals being killed before recovery from the anæsthetic; 281 were on cats and dogs and 917 on other animals for various physiological, pathological, and therapeutical experiments, in which the animal was allowed to live after recovery from the anæsthetic, without which proviso the experiments would have been rendered useless. These operations are required to be performed antiseptically and if suppuration ensues the animal must be destroyed. The report points out that "after the healing of wounds the animals are not necessarily or even generally in pain, since experiments involving the removal of important parts, including portions of the brain, may be performed without giving rise to pain after the recovery from the operation; and after a section of a part of the nervous system the resulting degenerative processes are painless." With regard to the second group of experiments we find the authoritative statement that "in no case has a cutting operation more severe than a superficial venesection been allowed to be performed without anæsthetics." This means to say that in the necessary interests of scientific medicine no pain has been inflicted by operation on any animal that is so severe as that of many surgical procedures which are daily endured by non-anæsthetised human beings. Under this group 63 experiments were done on horses, asses, or mules, 467 on dogs or cats, and 42,757 on smaller animals. Of these the vast majority consist of no more than the prick of a needle (such as thousands of human beings daily receive) for the purposes of inoculation or blood examination, and a few of them consist of feeding experiments. If an inoculation into a deep part involving a preliminary incision be necessary an anæsthetic is required. By the nature of the experiments, many of which are of a "standardising" nature, it often happens that no discomfort whatever results to the animal, but in the event of pain ensuing the animal must be killed under anæsthetics as soon as the main result of the experiments has been obtained. The increase of 7858 experiments over last year is more than accounted for by the increase of 8659 experiments performed on behalf of the Imperial Cancer

Research Fund; in this interest 21,082 experiments were altogether performed, of which 20,795 were inoculations into mice. It is encouraging to read that many of the experiments were performed on behalf of county councils, municipal corporations, and other official bodies, with a view to the preservation of the public health or for the diagnosis and treatment of disease. In Ireland 97 experiments were performed. The inspectors found that in all registered places the animals were well cared for and the licensees attentive to the requirements of the Act No irregularities were reported from Ireland and in England only four slight breaches the result of inadvertence or misunderstanding as to the scope of licences.

THE LATE SURGEON-GENERAL SIR JOHN KER INNES, K.C.B.

IN Florence (writes an Italian contributor) a movement has been started to commemorate this distinguished army surgeon whose later years were spent in promoting the welfare of the city. The animating spirit of many charities, medical and other, Sir John Ker Innes was also deeply and actively interested in the Anglo-Catholic Church of the Holy Trinity in the Via Lamarmora, the reconstruction of which owes much to him as chairman of the committee appointed *ad hoc*. It has been decided, therefore, that the contemplated memorial of him should take the form of a new inner porch to the church, with a suitable inscription, to recall the services, as numerous as they were valuable, conferred by him on the English-speaking community, resident and migratory, of the Tuscan capital. A subscription list towards the carrying out of this object has accordingly been opened and all who may be disposed to contribute are requested to communicate either with the Messrs. Haskard, Bankers, Florence, or with the chaplain, the Rev. A. A. Knollys, 70$^{\text{Bis}}$ Via Cavour.

A PLETHORA OF WINE IN THE SOUTH OF FRANCE.

A CURIOUS and perplexing situation has arisen in the wine-producing districts of South-Eastern France owing, it is said, to over-production. This has led to an acute economic distress which has occasioned rioting on the part of the great number of workpeople who are engaged in the industry there. Over-production does not, of course, necessarily imply that more wine than usual has been yielded or that the harvest has been unusually prolific. It most likely means in this case that the demand for wine in one district has diminished owing to the successful production of wine elsewhere. Competition, in short, has loaded a particular market and has led to a glut which has made the sale of the product no longer profitable. Immense quantities of wine are produced in Spain and in Italy, while France's rich colony, Algeria, exports to the mother country very large consignments of wine, whereas previously France sent wine into Algeria. It is alleged, however, by the organisers of the strike movement in the Midi that the systematic adulteration of wines has been largely responsible for the crisis, and an appeal is being made to the Government to make effective the laws applying to sophistication. It is most probable that the practice of *sucrage*, which under certain conditions is sanctioned by the French Government, has brought in its train widespread abuse. If weak grape-juice is artificially sugared it is obvious that a powerful wine can be produced which can be diluted with water and so a large bulk of so-called wine can be obtained. If this practice has led to the present crisis the victims of it have ample grounds for complaint and for taking up the strong attitude which they are reported to have done. The position is not calculated to affect the quality, quantity, or price of the excellent and genuine wines exported into this country from the Médoc. Even the cheaper kinds of claret, say at 12*s*. per dozen, are superior to the *vin ordinaire* which is consumed in France on a scale comparable with the drinking of beer in this country. It is, in fact, the every-day *vin ordinaire* that is chiefly concerned in this crisis, a cheap wine which owing to its "thin" qualities will not travel without losing its sound condition. It was a very risky concession for the French Government to make that when the vintage was poor the addition of sugar to grape juice might be permitted in order that alcoholic strength might be gained, and hence an increased bulk of apparently genuine wine produced. Dishonest dealing deserves disaster and the sooner the French Government organises a purifying crusade against the particular industry concerned, if the practice of sugaring the wine is at the bottom of the trouble, the better. We have every reason for believing that the supply of claret of both the cheap and elegant kinds from the Bordeaux districts to this country is still being maintained at that high standard of purity and excellence which was shown to be the case in the report of THE LANCET Commission on the subject 18 months ago.

PEMBROKE COLLEGE, OXFORD: A MEDICAL SCHOLARSHIP.

IN our issue of March 23rd we announced that Dr. C. Theodore Williams had founded a medical scholarship at Pembroke College, Oxford, his old College. The regulations concerning the scholarship are now before us and are as follows:—

1. The scholarship founded in Pembroke College in the University of Oxford by Dr. Charles Theodore Williams shall be entitled the Theodore Williams Medical Scholarship, and shall be administered as a scholarship of the College by the Master and Fellows.

2. It shall be adjudged after open competition, and natural science shall form the predominant part of the examination. Every candidate shall be required before admission to the examination to state in writing that it is his *bonâ fide* intention to proceed to the degree of B.M. and B.Ch. in the University of Oxford and to practise medicine or surgery.

3. The stipend of the scholar shall be £100 a year, so long as the income of the endowment shall suffice.

4. The scholarship shall be tenable for four years, provided that the holder's conduct and diligence be approved by the Master and Fellows, but in exceptional cases if the Master and Fellows shall so determine it may be held for a fifth year. The Master and Fellows may, if they think fit, excuse the scholar from residence during such fifth year.

5. If a scholar shall be guilty of any grave misconduct or shall be negligent of his studies, the Master and Fellows shall have power to suspend his scholarship or diminish his stipend, or deprive him of his scholarship. If at any time the Master and Fellows shall be satisfied that the scholar has abandoned his intention to proceed to the degrees of B.M. and B.Ch. they may deprive him of his scholarship. In case of deprivation the scholar may appeal to the Visitor, whose decision shall be final.

6 The Theodore Williams' scholar shall be required to pass all the examinations necessary for the degree of B.A., of which the Honour School of Natural Science shall be one.

7. The Theodore Williams' scholar shall enjoy the same privileges and be subject to the same duties as the other scholars of the College; and the by-laws affecting scholars shall be applicable to him except in so far as the Master and Fellows shall from time to time determine otherwise.

8. Not less than two months before holding any examination for the scholarship the College shall publish in the leading medical papers notice of the date of the examination and of its intention to proceed to an election.

9. Candidates must be unmarried and not more than 21 years of age at the time of election. They must send in satisfactory evidence of age and one or more testimonials of conduct covering the two years last preceding the time of their application.

This scholarship is, we believe, the first medical scholarship within the University. There are medical Fellowships, such as the Radcliffe Travelling Fellowship, and one of the Sheppard Fellowships at Pembroke College. There is also the Philip Walker studentship, but the holder of that must confine himself to pathology and the scholarship is not open to competition, neither is it restricted to members of the University. We are glad to see that Regulation 6 provides that the scholar must pass all the examinations for the degree of B.A., for although this regulation still holds good as regards the University there is no telling in these troublous times how soon an effort may be made to admit students to the examinations for the degree of B.M. who have not been through the Arts course. Pembroke College is to be congratulated on having so generous a son as Dr. Williams who is not forgetful of benefits received. The number of men who pass through the University content with the degree of B.A. without proceeding to the degree of M.A. is by no means creditable, and if they ignore their University still more do they ignore their College. To such, actions like that of Dr. Williams are both an example and a dignified reproach.

STUDIES IN EXPERIMENTAL ALCOHOLISM.

Dr. Reid Hunt, chief of the Division of Pharmacology of the United States Hygiene Laboratory, has recently concluded an extensive series of studies in experimental alcoholism.[1] Dr. Hunt undertook a series of experiments which he considers prove that profound modifications of certain physiological processes result, in a comparatively short space of time, from doses of alcohol so small that no indications of intoxication are observed. From a consideration of the known general effects of alcohol upon the metabolism Dr. Hunt was led to investigate the effect of alcohol in causing an increased oxidation of certain substances, particularly acetonitrile or methyl cyanide. This substance is very different from hydrocyanic acid, in its chemical and physiological properties, of which the latter are almost certainly due to the slow liberation of hydrocyanic acid in the body. Giacosa found thiocyanic acid in the urine after the administration of acetonitrile, whereas *in vitro* the oxidation of acetonitrile results in the formation of acetic acid. In the organism the hydrocyanic acid which is first formed subsequently unites with sulphur to form thiocyanic acid. A set of experiments was carried out to determine the effects upon the toxicity of acetonitrile of various substances that are supposed to influence physiological oxidations. One of the first substances studied in this connexion was alcohol. The experiments, which were made on mice, show that animals to which alcohol has been administered for some time acquire an increased susceptibility to acetonitrile. This occurs after the administration of amounts of alcohol far too small ever to cause indications of intoxication and from doses which almost certainly cause no anatomical lesions. This increased susceptibility is not due to a general lowering of resistance but is associated with a distinctly increased power of the body to break up the molecule of acetonitrile. The alcohol was administered by pouring it upon the food, usually oats, and it was slowly increased in strength from 5 to 50 per cent. The acetonitrile was injected subcutaneously in aqueous solution. In one experiment a mouse was treated with alcohol varying from 5 to 35 per cent. in strength over a period of about six weeks. After an interval of two months a dose of 0·23 milligramme of acetonitrile per gramme of body weight proved fatal in two hours. In a control experiment the mouse recovered after the administration of 0·42 milligramme per gramme. In this series of experiments it was found that the mice which had received alcohol died from about one-half the amount of acetonitrile that was required to kill mice which had not received alcohol. The experiments further show that there appears to be something special about the poisonous action of alcohol, inasmuch as certain other poisons—e.g., amyl alcohol and chloral hydrate—which cause a loss of weight and so might be considered as likely to lower the general resistance, do not have this effect. The formation of thiocyanic acid from acetonitrile appears to be a protective reaction on the part of the organism, the thiocyanic acid being less poisonous than the hydrocyanic acid formed from the nitrile. Experiments on guinea-pigs show that animals dosed with alcohol excrete 1·7 times as much thiocyanic acid after the administration of acetonitrile as do animals which have not been given alcohol. Dr. Hunt suggests that his experiments afford clear evidence that extremely moderate amounts of alcohol may cause distinct changes in certain physiological functions and that these changes may be injurious to the body in certain circumstances. The results also afford further evidence that in some respects the action of alcohol as a food is different from that of carbohydrates and also that in all probability certain physiological properties in moderate drinkers are distinctly different from those in abstainers. These experiments are of extreme interest because of the clear demonstration which has been made in recent years that alcohol is oxidised in the body and may replace fats and carbohydrates and to a certain extent the proteids of an ordinary diet. As a result the view that alcohol in moderate amounts should be regarded as a food is almost universally accepted by physiologists. The drift of opinion is certainly towards the view that it is in all respects strictly analogous to sugar and fats, provided always that the amount used does not exceed that which can be easily oxidised by the body. Under these premisses it would be expected that alcohol in a diet would have the same effect upon an animal's susceptibility to acetonitrile as has, for example, dextrose. But this is by no means the case. Mice fed upon oats and dextrose show a very distinct resistance to acetonitrile, often recovering from two or even three times the dose which is fatal to controls. Dr. Hunt considers that while these facts are not sufficient to justify the conclusion that in many cases alcohol has not a true food value, yet they are sufficient to indicate caution in applying to practical dietaries without further investigation the brilliant and very exact results of Chittenden as to the proteid-sparing power of alcohol.

THE SALE OF PROPRIETARY MEDICINES ABROAD.

IN an interesting paper on secret remedies, which appeared in a recent number of the *Pharmaceutical Journal*, Mr. J. Cofman has given some particulars of the restrictions that are placed upon the sale of proprietary medicines abroad. In France the law of the eleventh year of Germinal prohibits the sale of any compound medicine, the formula of which is not published in the Codex Medicamentarius, or in the *Bulletin de l'Académie de Médecine*, or by the Government. This law does not apply to the written prescriptions of qualified medical men. The publication of advertisements recommending medicines is also prohibited. This law does not appear to be enforced rigidly, as about 4000 proprietary remedies are advertised and sold throughout the whole of France. In Germany different States have different laws against secret remedies but a general law is now in contemplation. In some States of Prussia, Würtemberg, and Bavaria the public authorities have warned the people against quackery with excellent results. The advertising of secret remedies is prohibited in Brunswick and in other States, even when the formula is published. In Austria a new preparation may not be sold without a medical prescription until its therapeutic action has been clinically tested and approved of by the medical authorities. Pharmaceutical specialities may be made only by pharmacists in business from drugs or chemicals admitted in medicine and they must possess some element of novelty or show some improvement as regards their physical properties. If a preparation is sold only in the maker's own pharmacy the exact formula must be entered in a special register which is kept for inspection by medical men. If the preparation is to be advertised and sold in other pharmacies special authorisation must be obtained. The price is calculated from the wholesale cost of the ingredients, working expenses being included according to a tariff. Advertising expenses and discount to retailers are not allowed to increase the cost of the article. The Customs houses and postal authorities refuse to deliver medicines entering Austria from abroad to anyone but a pharmacist. The advertising or sale of quack remedies is not allowed in Austria. In his letter at p. 1528 our Vienna correspondent also deals with the matter.

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[1] Bulletin No. 33, Hygienic Laboratory, United States Public Health and Marine Hospital Service, Washington, February, 1907, pp. 43.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: ANNUAL ELECTION TO THE COUNCIL.

A MEETING of Fellows of the Royal College of Surgeons of England will be held at the College on Thursday, July 4th, for the election of four Fellows into the Council of the College in the vacancies occasioned by the retirement in rotation of Sir John Tweedy, Mr. Herbert William Page, Mr. Charles William Mansell Moullin, and Mr. Frederic Samuel Eve. Sir John Tweedy's period of office expired three years ago, but, being President, he was entitled to retain his seat on the Council until he vacated the President's chair. Mr. Moullin was elected to the Council in the year 1902 as substitute for the late Sir William MacCormac, and Mr. Eve was elected in the year 1904 as substitute for the late Mr. T. R. Jessop. The terms of office of these two deceased gentlemen as members of the Council would have expired this year. Mr. Page was elected in the year 1899, and thus completes the full period of office for a member of Council—eight years. The poll will be open for personal voting between the hours of three and five in the afternoon. A voting paper will, however, be sent to each Fellow who may desire to vote by post and whose address in the United Kingdom is registered at the College on June 21st, and Fellows will not be required to apply for voting papers.

THE WINTER ON THE SWISS MOUNTAINS.

THE following figures represent the mean temperature in the shade at 7.30 A.M. and at 1.30 P.M. mid-European time, the aggregate number of hours of bright sunshine, and the total fall of snow in inches of water during the four months December, 1906, to March, 1907.

—	—	Temperature.		Sunshine. No. of hours.	Rainfall.	
		7.30 A.M.	1.30 P.M.		Days with snow.*	Total fall.
		Deg. F.	Deg. F.			
Säntis 2500 m.	December	9	11	78	14	6·3
	January	13	15	88	18	9·3
	February	10	13	107	12	4·0
	March	15	17	167	16	12·3
Davos, 1560 m.	December	13	20	54	18	3·4
	January	16	24	62	16	4·2
	February	11	26	92	10	2·1
	March	17	32	164	15	5·5
Gothard, 2100 m.	December	12	16	†	6	3·7
	January	16	19	†	7	0·8
	February	13	18	†	2	0·2
	March	19	24	†	3	1·4
St. Moritz, 1841 m.	December	13	†	†	10	1·1
	January	16	†	†	3	0·3
	February	13	†	†	5	1·0
	March	19	†	†	8	1·7

* A day when the snowfall gave a measurement of at least 0·04 inch when melted.

† No observations available.

The chief feature of the temperature is perhaps the little difference between the morning and afternoon readings at the two most elevated stations—Säntis and St. Gothard—when compared with the corresponding difference at Davos, which is on the lower level of 1560 metres above the sea. But although the frost was more intense at the highest position the duration of sunshine was also greater, and this must have been more than a counter-balancing advantage. All the stations occasionally experienced morning temperatures below zero, but they were more common at Säntis and St. Gothard than elsewhere, and the lowest reading at 7.30 A.M. was no lower than 8° below zero, showing just 40° of frost. At Davos the thermometer was above the freezing point at 1.30 P.M. on 27 days, of which 16 were during March, three in December, and only two in January. Readings above 35° were extremely rare, and the highest point touched by the thermometer was 41° at Davos at the end of March. At the higher observing stations of St. Gothard and Säntis the freezing point was exceeded on only two or three afternoons, all of which were in March. The atmosphere was, of course, very dry except during foggy spells but the actual figures of relative humidity are lacking. The number of days on which snow was experienced was small at Säntis and St. Gothard, as was also the actual quantity.

MEAT EXTRACT AND YEAST EXTRACT.

WE have intentionally refrained, pending some inquiries as to the reasons underlying the extraordinarily conflicting evidence given by analytical experts, from making any comment on an important case recently heard at Marylebone police-court, in which the question at issue was whether a certain extract contained extract of meat or extract of yeast, or both. The case, in short, for the prosecution was that a certain preparation had been sold to the public as a meat extract, whereas, in fact, it was essentially a vegetable or yeast extract containing on an average only 8 per cent. of extract of meat and a proportion of flavouring to give it the appearance and smell of a meat extract. The case for the defence was that it did actually contain 18 per cent. of meat extract and that when the descriptions of the article were liberally interpreted they would be found to be scientifically correct. The evidence for the prosecution was based upon the amount of creatinine found in the extract by a process of analysis adopted by Mr. Otto Hehner. This witness stated that meat extract contains about 11 per cent. of creatine *plus* creatinine and in all the extracts of meat which he had examined he found that this amount was practically constant. This invariability of the amount of creatine in extract of meat was denied but at any rate a quite definite figure is obtained for beef—namely, 0·41 per cent., and as the yield of extract from beef is about $\frac{1}{25}$th to $\frac{1}{30}$th of its weight it follows that the creatine and creatinine in the extract should approximate to from 10·25 to 12·30 per cent., figures which are absolutely in accordance with Mr. Hehner's results. Dr. B. Dyer, Mr. A. C. Chapman, and Mr. Gordon Salamon, analytical experts for the defence, contended that the method adopted by Mr. Hehner was new, untrustworthy, and worthless, Mr. Salamon adding that he was amazed at such an able and responsible authority as was Mr. Hehner bringing forward such a test. The magistrate, Mr. Paul Taylor, also took this view and accepted this evidence. He dismissed the summons, with £200 costs. By the courtesy of Mr. Hehner we have obtained from him the particulars of the method which he adopted for the determination of creatinine, on the results of which he based his evidence. It is hardly necessary now for us to say that we believe his results and the opinion founded on them to be absolutely correct, for Dr. Dyer, Mr. Chapman, and Mr. Salamon have since acknowledged "the superior accuracy of Mr. Hehner's numbers." They, however, maintain that the proportion of creatine and creatinine in the manufactured product entirely accords with the sworn testimony of the manufacturers as to the quantity of meat extract used—viz., 18 per cent.—in whichever way the test is carried out, and the difference between them, they assert, did not after all affect the question at issue. It seems strange that the time of the court should have been so largely occupied with the hearing of analytical evidence if this evidence did not affect the question at issue and if it did not as a matter of fact guide the magistrate to the decision which he gave. However, the fact is that the test failed in the hands of the expert witnesses for the defence because they omitted to observe certain precautions in regard to carrying out the test the result of which was to give them figures far below the truth. It may be added that the differentiation of meat extract from yeast extract is based on the fact that the former contains creatine *plus* creatinine, while the latter contains, practically speaking, neither of these bodies. Creatinine yields when heated with alkaline picrate a blood-red colouration due to the formation of creatinine picrate. Creatine does not react in this way until it is first heated with dilute hydrochloric acid which converts it into creatinine. The colouration can be imitated by operating on a definite quantity of a standard solution of pure creatinine and so the amount in a given preparation may be estimated. The main point to be observed in this method is to insure that the picric acid is present in amount sufficient, or more than sufficient, to combine with all the creatinine present. Otherwise the results will be irregular and below the real figure. We consider that the analytical evidence in this case was of the utmost importance and it was most unfortunate that the mistake in analytical procedure was made, even if it was satisfactorily established that the preparation in question contained meat extract. As long as it is described honestly there is, of course, no objection to yeast extract being sold for dietetic purposes. It resembles meat extract in appearance, colour, and taste, and possesses similar dietetic properties, but it is not meat extract any more than margarine is butter. The occurrence of questions of this kind emphasises the need for the existence of a court of reference of experts or of a tribunal qualified to try highly technical cases.

GORILLAS AND PRIMITIVE MAN.

IN his interesting lectures on the Prehistoric Inhabitants of Britain, recently delivered at the Royal College of Surgeons of England, Mr. W. Wright exhibited the skull of a gorilla and contrasted it with the crania of primitive man. It is now nearly 60 years since a previous Hunterian professor, the famous Richard Owen, insisted on the same contrast. Owen's, of course, was the anti-Darwinian point of view, whereas Mr. Wright showed diagrammatically that crania tend to develop from a lower or ape-like form to a higher. When in 1859 Owen added an appendix "on the gorilla" to his reprint of lectures on the Classification and Geographical Distribution of the Mammalia, the animal was still a novelty in England. The species may indeed be said to have been re-discovered by Dr. Savage, a missionary in the Gaboon, who in 1847 sent sketches of it to Owen, but no live specimen of the gorilla seems to have been seen in England till after the publication of Owen's lectures, when one was for a time quartered at the Crystal Palace in 1859. The creature became the centre of myths. The public, including the great Owen himself, were inclined to believe the species not far removed from prehistoric man. Owen quotes romantic negro beliefs in which he is inclined to place credence as "in accordance with the ascertained structure and powers of the animal." The gorilla, according to Owen, makes a sleeping-place like a hammock. He cracks nuts with a stone and is said to walk half erect with the help of a club. Native beliefs, which Owen quotes without adopting, were that the animal built huts and roughly buried its dead. "All the terms of the aborigines in respect to the gorilla imply their opinion of his close kinship to themselves. But they have a low opinion of his intelligence." Thu Owen unconsciously played into the hands of those wh at that time were inclined to assert the descent of man from a gorilla-like type. In 1861 du Chaillu published hi remarkable book of travel in Equatorial Africa and described his experiences of the gorillas, all the pretty myths concerning which he ruthlessly exploded. The creature he shows to be just a great ape without human habits of any kind. Thus the theory of evolution holds man and the apes to have an ancestry in common, yet scarcely any arguments can be brought to support this belie from a consideration of the habits, as opposed to the anatomy, of the great apes.

THE WESTMINSTER CITY COUNCIL AND THE STREETS.

WE have upon previous occasions been at issue with the Westminster city council as to its management of the streets in regard to sanding them in slippery weather and also as regards the removal of snow. It is pleasant, therefore, to be able to give the council credit for its forethought as expressed in a circular just sent out. This circular informs all whom it may concern that certain streets within the boundaries of the City of Westminster will be repaved on or about certain dates. The circular further states:—

> The contracts provide for the work to be completed with all dispatch and with as little inconvenience as possible to those occupying premises along the street. The gas, water, electricity, telephone, telegraph, lighting, hydraulic power, and other trenching companies have been notified in order that they may carry out any alterations and repairs to their mains and services immediately prior to or during the execution of the proposed works, with the view of obviating interference with the paving by them in the near future. The police authorities have also been informed of the intended works, so that they may make such arrangements as are necessary for the direction and control of the street traffic during the time the street works are in the hands of the contractor.

With regard to the question of "all dispatch," we wonder whether the contract provides for the working of a night shift in the non-residential districts concerned. If work were carried on continuously day and night in, for instance, that portion of Charing Cross which is affected the inconvenience and the delay to the traffic would be reduced by one-half. We trust that the "trenching companies" will avail themselves of the opportunity afforded to them and thus also earn our congratulations. Certainly the Westminster council deserves every credit for making so gallant an effort to minimise the nuisance which invariably follows the repaving of a road.

HEMIPLEGIA WITHOUT LESION OF THE PYRAMIDAL TRACT.

THE association of hemiplegia of organic type with a lesion of the pyramidal system in some part of its course is one of the most definitely established facts in neuropathology, and according to Probst no case of organic hemiplegic paralysis without such a lesion is on record. A case observed by Dr. Spielmayer[1] of Freiburg and described by him at the meeting of the neurologists and alienists of South-West Germany held at Baden-Baden is therefore of very great interest in this connexion. Clinically the case appeared to be one of genuine epilepsy with characteristic convulsions. The patient, who was originally an intelligent woman, gradually became weak-minded and stupid. There were not at any time Jacksonian fits or any post-epileptic paralyses until two years before death (which occurred at the age of 41 years) when after an attack of status epilepticus a left-sided hemiplegia developed. This showed the typical characters of a cerebral lesion and followed the usual course of that condition. It was therefore supposed that a hæmorrhage into the internal capsule had occurred. At the necropsy no trace of such a lesion was found, nor did a most careful microscopical examination bring to light any lesion of the fibres of the pyramidal system in the pons, medulla, or spinal cord which presented identical characters on the two sides. It was found, however, that the whole of the right hemisphere was atrophic, especially so in the neighbourhood of the fissure of Rolando. Specimens prepared from the ascending frontal convolution and stained by Nissl's method and by Weigert's neuroglia stain demonstrated the replacement of the cellular layers by neuroglia with the exception of the layers of giant pyramidal and large pyramidal cells which in number, arrangement, and structure were identical with those of the sound side. It is well known that these cells are the trophic cells from the pyramidal fibres and the absence of any pyramidal lesion was therefore explained. From the examination of the cortex cerebri it would therefore appear that the hemiplegia in this case owed its origin to a lesion of the sensori-motor path beyond the upper motor neuron. It is interesting in this connexion to recall the experiment of Mott and Sherrington who showed that after section of all the posterior roots entering into the formation of the brachial plexus in monkeys the arm was paralysed, although the pyramidal tract was intact and was excitable to subsequent stimulation. It would have been of interest to know whether in Dr. Spielmayer's case the paralysed side was convulsed in fits occurring subsequently to the hemiplegia. The case is noteworthy, not only on account of its rarity but also because of the care with which it was worked out and the suggestive nature of the conclusions arrived at.

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[1] Berliner Klinische Wochenschrift, August 20th, 1906, p. 1148.

INTERNATIONAL CONGRESS ON PSYCHIATRY, NEUROLOGY, PSYCHOLOGY, AND THE CARE OF THE INSANE.

AS already mentioned in THE LANCET of March 2nd, p. 605, an International Congress on Psychiatry, Neurology, Psychology, and the Care of the Insane will be held in Amsterdam from Sept. 2nd to 7th. Membership of the Congress is open to all who may be interested in the above subjects. The official languages are English, French, and German. Members pay a subscription of 10 gulden or 16*s.* 8*d.*, and ladies accompanying them a subscription of 5 gulden or 8*s.* 4*d.* A programme has now been issued giving full details of the arrangements. The work of the Congress will be conducted in three sections and there will be an exhibition of objects of interest. The first section will deal with Psychiatry and Neurology. The principal official subjects of discussion will be Theories of Hysteria, Psychoses Connected with Alcoholism, Diagnosis of Various Forms of Dementia, and the Cortical Localisation of Certain Functions. The second section will deal with Psychology and Psycho-physics. The principal subjects will be the Psychology of Puberty, the Difference Between Perception and Idea, and the Previous History of the Insane. The third section will deal with the Care of the Insane. The principal subjects will be the Management and Control of Asylums, Supervision of the Care of the Insane by the State, Instruction and Duties of the Attendants, Boarding-out, Alcoholism, and the Education of Backward Children. National committees are appointed in each of the countries represented at the Congress. The committee for Great Britain and Ireland consists of 17 members, Dr. Robert Jones of the London County Asylum, Claybury, Essex, being the president. The Congress will be opened on Sept. 2nd at 2 P.M. in the presence of Queen Wilhelmina, after which there will be a reception of the delegates and the first general meeting will be held. The sections will meet at 9 A.M. on Sept. 3rd, 4th, 5th, and 6th. The proceedings will be diversified by various excursions and entertainments. The offices of the Congress are at No. 717, Prinsengracht, Amsterdam. The visitors' accommodation committee will secure rooms for members if application is made before August 15th to Dr. D. M. van Londen at the above address. Applications for membership of the Congress must be made not later than August 1st.

SANITARY WORK ON THE ISTHMUS OF PANAMA.

DURING the last three years some remarkable sanitary work, remarkable alike in its conception and in its result, has been undertaken on the Isthmus of Panama. Dr. W. C. Gorgas, in the *Medical Record* of May 18th, gives a succinct account of this work. He points out that when the United States took possession of the canal zone three years ago there were all the conditions necessary for the breeding of stegomyia and anopheles mosquitoes, that malaria, dysentery, and small-pox were prevailing among the people, and that yellow fever was present at Panama and Colon. Organised sanitary endeavour has now caused the disappearance of yellow fever and malaria has been held in check, but for 15 miles the canal belt is low and swampy, and in the other portions rain-water barrels and cisterns are plentiful, so that all conditions for the breeding of mosquitoes are at their best in a climate that is never cold. The presence of yellow fever, apart from the stegomyia, is due to the coming of non-immune whites in large numbers who contract and propagate the disease. The health authorities have furnished pure water, sewage systems and methods for the proper disposal of night soil, and sufficient hospitals for the care of the sick. They keep up an inspection of those who are non-immune, isolate cases of yellow fever in screened houses, and kill infected mosquitoes by fumigation. By ditching, draining, and oiling stagnant waters they have lessened the anopheles mosquitoes and the consequent malarial troubles. An efficient quarantine against infected localities is maintained at the ports of entry to keep out yellow fever and for 15 months there has not been a case of it in the canal belt. This is not a coincidence but a result of the sanitary measures taken. Dysentery has also been considerably controlled by, among other things, the provision of a good water-supply, so that we may congratulate all concerned in the sanitary administration in Panama upon great results.

EPIDEMIC CEREBRO-SPINAL FEVER.

DURING the last seven or eight days there has been some diminution in the notifications of epidemic cerebro-spinal fever. In Scotland during the week ended May 25th there were 19 deaths from this cause registered in Glasgow, 5 in Leith, and 2 in Dundee. In Glasgow the weekly report issued on May 24th showed that there were at that time 116 cases under treatment. In Belfast during the week ended May 25th there were 20 deaths from this cause registered. In London during the month of April one death of a patient belonging to Poplar was registered.

AS regards Hong-Kong, a telegram from the Acting Governor received at the Colonial Office on May 27th states that for the week ending May 25th there were 10 cases of plague and 10 deaths from the disease. As to the Cape Colony, the medical officer of health of the Colony states that for the week ending May 4th no further case of plague in man was discovered in King William's Town, but that on the 5th a European girl, aged 11 years, was found to be suffering from bubonic plague. The Department of Public Health of Queensland in a bulletin dated April 20th states that for the week ending on that date no case of plague occurred either in Brisbane or at Port Douglas.

THE annual dinner of the Indian Medical Service will be held in the Adams Room at the New Gaiety Restaurant, Strand, London, on Thursday, June 13th, at 7.45 P.M., when Surgeon-General Sir Benjamin Franklin, K.C.I.E., will preside. Officers intending to be present should communicate at as early a date as possible with the honorary secretary, Lieutenant-Colonel P. J. Freyer, 27, Harley-street, Cavendish-square, W.

Sir Arthur Rücker, M.A., D.Sc., LL.D., F.R.S., Principal of the University of London, will distribute the prizes to the successful students at Guy's Hospital on Thursday, July 4th next. The usual garden party will be given in the grounds.

Mr. David James Galloway, M.D., C.M. Edin., has been appointed an Unofficial Member of the Legislative Council of the Straits Settlements.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, MAY 28TH.

THE sittings of the eighty-fifth session of the General Council of Medical Education and Registration were commenced to-day at 299, Oxford-street, Dr. DONALD MACALISTER, the President, being in the chair.

New Members.

The following new members took their seats as Direct Representatives for England: Dr. Henry Langley Browne, introduced by Dr. R. Saundby; and Dr. Leonard Strong McManus and Dr. Henry Arthur Latimer, introduced by Sir John Williams. Dr. Norman Purvis Walker, introduced by Mr. Hodsdon, took his seat as Direct Representative for Scotland.

The President's Address.

The PRESIDENT then delivered his address. After making kindly allusion to the services of Sir Victor Horsley, Dr. William Bruce, Mr. George Brown, and Mr. George Jackson, who have ceased to be members of the Council, and giving a no less kindly welcome to Dr. Langley Browne, Dr. Latimer, Dr. McManus, and Dr. Norman Walker, who have taken their places, he said:—

As you are probably aware, I have been unexpectedly called by His Majesty to be the resident head of the University of Glasgow. The authorities of the University of Cambridge, to whom I owe my seat in the Council, and accordingly in this chair, have kindly expressed a desire that I should complete the term of five years for which I was last re-elected by the Senate. As the Senate is not limited in its choice to persons in continuous residence at Cambridge, and as I shall maintain a close connexion with that University, I have agreed to retain my membership of the Council as its representative. I have made such arrangements for the conduct of office business during the intervals of our sessions as will ensure that the commonwealth shall take no detriment on account of my greater distance from London. It may even be that some advantage will accrue from the opportunity afforded to your President of studying at first hand the position of medical education and practice in Scotland as well as in England. The Lord President of the Privy Council has just furnished us with an illustration. The University of Edinburgh has framed an Ordinance making certain changes in the course of study and examinations for medical degrees. On this Ordinance two of the three other Scottish Universities have offered to the Privy Council, as they are entitled by law to do, various criticisms, of which some refer to inter-university relations rather than to general principles, others perhaps to matters of substance. In regard to such general principles and matters of substance the Lord President invites an expression of opinion on the part of the General Medical Council. The Executive Committee has resolved to refer the ordinance to the Education Committee and the Examination Committee, with the request that they will respectively report to the Council whether the provisions of the ordinance are in conformity with its existing resolutions and recommendations on the subjects of professional education and professional examination.

It is with special satisfaction that I record the completion of the negotiations for medical reciprocity with the Province of Nova Scotia, to which, as you will remember, His Majesty in Council was pleased last year to apply Part II. of the Medical Act, 1886. The negotiations with the Executive Committee, to which the Council has delegated the duty of carrying into effect this part of the Act, have been conducted by the provincial authorities with the utmost goodwill and with the fullest desire to meet the requirements of the Council. As a result the committee has felt justified in granting recognition to Nova Scotian degrees and diplomas on terms which, while they fulfil the conditions of the Medical Act as regards sufficiency, are at the same time satisfactory to the Provincial Medical Board. The Board has, moreover, voluntarily undertaken to initiate legislation which will tend to raise still higher the efficiency of the medical curriculum of the province. The correspondence which has led to this gratifying result has been printed and published in the minutes of the Executive Committee. The admission of Nova Scotian qualifications to the British Register has already, as I understand, had the incidental consequence that Canadian medical graduates who have fulfilled the conditions applicable to the maritime province are now declared to be eligible for commissions in the Royal Army Medical Corps. The Australian States, which long ago entered into reciprocal relations with this country, are already in a position to offer similar advantages to their medical graduates. It is to be regretted that graduates of provincial universities in Canada other than those of Nova Scotia are still ineligible for appointments in the medical services of the Crown. It now rests with the Canadian provinces themselves to remove the disability. The Council, which has always taken a broad view of its responsibilities to the empire in general, will doubtless give the most favourable consideration to any overtures the provincial governments may make to this end. His Majesty has not yet been pleased to apply the Act to the Province of Quebec, as it is first necessary that the Privy Council should be more fully informed of the actual provisions of the local law affecting the admission to the provincial register of practitioners registered in the United Kingdom. We are told that the requisite inquiries are being made through the proper channels. Until His Majesty in Council is satisfied regarding the provisions in question the Executive Committee is unable to take further steps towards the recognition of Quebec degrees.

The Foreign Office has forwarded to the Council copies of the international agreement respecting the unification of the pharmacopœial formulas for potent drugs, which was signed at Brussels on Nov. 29th, 1906, by the diplomatic representatives of 18 states on behalf of the respective contracting governments. This agreement embodies, with slight amendments, the resolutions of the Brussels Conference of 1902. It includes the following reservation which, as chairman of the Pharmacopœia Committee, I ventured to suggest should be made on behalf of this country: "The Government of His Britannic Majesty declares that it reserves the right of introducing into the stipulations of the present agreement such modifications in detail as the progress of medical and pharmaceutical science may render necessary from time to time." In drawing up the next Pharmacopœia it will accordingly be incumbent on the Council, in the paramount interest of international uniformity and of public safety, to make certain changes in the formulas for a few poisonous drugs and preparations. The changes involved may not in all cases be deemed improvements, and if our own insular convenience only were in question might not at once be approved; but they are probably fewer and less important than other countries will be constrained under the agreement to make in the common interest of all. The reservation above mentioned, moreover, enables the Council, as the authority statutably responsible for the British Pharmacopœia, to modify the letter while observing the spirit of the agreement, so as to keep pace with the progress of medical and pharmaceutical science. The Committee of Reference in Pharmacy has had the agreement under consideration and has presented to the Pharmacopœia Committee a valuable report on the changes required to give it effect.

Two Bills, proposing amendments in the law relating to the practice of medicine and of dental surgery by joint-stock companies, which have already received the approval of the Council, have been introduced in the Upper House by Lord Hylton and have passed the second reading without opposition. They were supported in principle by Lord Halsbury, late Lord Chancellor, and by the Lord President of the Council on behalf of the Government. By consent they have been referred to a Select Committee, which will shortly sit to receive evidence from this Council and from other bodies interested respecting the abuses against which the Bills are directed and the sufficiency of the proposals therein contained for the purpose contemplated. The Registrar and your legal advisers are actively engaged in preparing for submission to the Select Committee a statement of the evidence in the possession of your Companies Bills Committee. A Bill to empower the Society of Apothecaries of London to confer on those who have passed its qualifying examination the title of "Licentiate in Medicine and Surgery" has passed through several of its stages in Parliament. Certain amendments in its terms, suggested by the Executive Committee in the interest of the Council, have been readily adopted by the promoters.

A question seriously affecting the position of members of the Council as a judicial body has been raised by a communication from the chairman of the Central Ethical Committee of the British Medical Association. The communication informs us that the annual representative meeting has decided that the Association should act as complainant in cases which might require to be brought before the General Medical Council; and that the Central Ethical Committee is the body whose duty it would be to consider whether a given case should be so brought and to prepare the case for our consideration. As many members of the Council (and of the Penal Cases Committee) are members of the British Medical Association, it appeared desirable that their position in regard to complaints made by the Association, if such were brought for inquiry before the Council (or the committee), should be made clear. I accordingly consulted our legal advisers, who are familiar with the *dicta* of the Lords Justices in cases (such as Leeson's and Allinson's) where the suspicion of bias or prejudice on the part of members of the Council has been alleged as a ground of appeal against its decisions. Their advice is that the proper course to be taken by a member of the Council who belongs to the Association is not merely to withdraw from the decision of a case in which the Association acts as complainant but to withdraw from membership of the Association altogether. The question of acting on this advice became urgent in my own case, when at the beginning of this month the Registrar reported that a formal complaint against a practitioner had been lodged at the office by a branch of the Association, and that the documents awaited my consideration in pursuance of the Standing Orders. As your President, I could not take even the first step towards a judicial inquiry so long as I remained a member of the British Medical Association. I therefore, without delay, sent in my resignation to the general secretary. So soon as my resignation takes effect I shall be able to look at the complaint; but I shall not be able to take the advice of the Penal Cases Committee upon the matter until the other members have also ceased to be connected with the Association. I have made the foregoing statement, after careful reflection, because it seems to me of the highest importance that members of the Council should be cognisant of the position resulting from the decision of the representative meeting of the Association. If that decision becomes operative, as regards either the central body or its branches, we who take any part in judicial inquiries have, in my opinion, no choice but to sever our connexion with the Association. However slight our connexion may be, circumstances might at any moment arise in relation to an inquiry wherein the Association was interested, which might be held to affect the impartiality of our judgment and so to invalidate our decision.

The Secretary for Scotland has been pleased to give directions, similar to those already given in England and Ireland, which will result in the notification to the Council of all cases in which registered practitioners are convicted in Scotland of crimes or offences punishable by fines. The thanks of the Council are due to the Government authorities for this aid to the performance of its disciplinary function. It happens, perhaps as a result of the better information at our disposal, that most of the penal cases to be brought before you this session have reference, not to allegations of "infamous conduct" but to convictions before the ordinary tribunals for crimes or other offences of various kinds. As in these cases the evidence of conviction is clear it is probable that you will have no great difficulty at arriving at a decision upon them. The striking diminution in the number of complaints concerning misconduct in a professional respect is a satisfactory feature of the present year. Certain decisions given recently in the Chancery Division of the High Court in connexion with our judgment in an inquiry held by the Council last year have raised legal questions of interest regarding the scope and meaning of the statutory phrase "infamous or disgraceful conduct in a professional respect." The Chancery decisions do not in form impugn the judgment of the Council or call in question its jurisdiction, but some of the points involved concern us so closely that I have asked the Council's solicitor to prepare a memorandum on the subject for our information. As we are advised that an appeal against the judgments is in progress, and as the cases are therefore *sub judice*, I propose that the memorandum should be communicated to the Council *in camerâ*.

At our last meeting you empowered the Executive Committee to adjust and to issue to the Council a new print of the Standing Orders, embodying therein such alterations, particularly with reference to our penal procedure and to the inspection and visitation of examinations, as the Council had by its resolutions directed or were consequential upon such resolutions. The committee has accordingly had prepared, and has approved, a complete edition of the Standing Orders in which such verbal amendments have been made as seemed necessary to give effect to the Council's intentions. Copies will be laid on the table and are now available for the use of members and of the public. For the Education Committee elaborate tables of statistics have been drawn up by the Registrar and Mr. King, with the assistance of the Branch Registrars, showing the ages at which practitioners registered during the year 1906 began and ended their curriculum. The committee will probably lay before you an analysis of these statistics and a report explaining what light they throw on the average length of the curriculum, and on the question of subdividing it into definite stages, which was referred to it last November. You will doubtless be of opinion that further statistical data, such as can be furnished only by the licensing bodies, are necessary in order to complete the information on which alone the committee can base a reasoned and reasonable solution of the question. The Practical Midwifery Committee, the recommendations of which were presented but not discussed during the winter session, has now received further replies and suggestions from licensing bodies. These will be duly communicated to the Council, and it will then be a position to adopt suitable resolutions on this important branch of professional education and examination.

In accordance with the resolution of Nov. 30th, 1906, I communicated to Sir Henry Howse and Mr. Alexis Thomson your acknowledgments of the valuable services they had rendered to the Council during their long tenure of office as assistant examiners in surgery at the Apothecaries' Hall, Dublin, and your desire to establish a system of rotation in the appointment of such examiners in future. From both have come letters expressing appreciation of the Council's consideration and concurring in the suggestion that rotation is desirable. Proposals will be made to you for the appointment of two Dublin surgeons, one to act for two years and one for four, as assistant examiners (and on occasion inspectors) for the Apothecaries' Hall. Their function is an important one, for through them the Council has to perform its statutory duty of maintaining the present standard of efficiency, and that not in surgery alone, at the examinations of this licensing body.

In conclusion, I have to congratulate the Council on finishing another financial year with a surplus instead of a deficit. But for the heavy expenses connected with the general election, expenses which are considerably increased by the introduction of the ballot system, the surplus would have amounted to £910, or a little more than last year. Of this sum, however, £870 were expended over the election, leaving a net balance of only £40. The actual expenditure on the enlargement of our chamber, and the improvement of our property, has for the time been met by means of the surplus in hand from last year. But it will next year have in whole or in part to be brought into ordinary account, and it therefore still behoves the Finance Committee to keep a watchful eye upon our outgoings, and especially on those connected with our ordinary sessions. There is good reason to expect that at the present meeting we shall easily be able within the limits of this week to overtake all the business in hand.

On the motion of Dr. NORMAN MOORE, seconded by Mr. MORRIS, the President was thanked for his address.

Business Committee.

The Business Committee composed of the President, Dr. Norman Moore, Mr. Young, and Sir Christopher Nixon was appointed.

Professional Examinations and Competitions.

Tables showing the result of professional medical examinations during 1906, results of professional examinations for qualifications in sanitary science, public health or State medicine, results of professional dental examinations, and competitions for commissions in the medical staff of the Royal Navy, the Army Medical Service, and the Indian Medical Service were received and entered in the minutes.

Apothecaries' Hall of Ireland.

Sir JOHN MOORE proposed the following motion:—

> That the Governor and Court of the Apothecaries' Hall, Dublin, be requested to furnish for the information of the Council a statement showing, in reference to the final or qualifying examination of that body: (1) the number of candidates who have presented themselves for the said examination in each year since the appointment of assistant examiners in surgery by the Council in May, 1897; (2) the number of candidates who have been successful at the said examination in each year since 1897; (3) the subjects in which the respective candidates presented themselves at each final examination during the said ten years; (4) the number of candidates rejected in each of the subjects of medicine, surgery, and midwifery; and (5) the number of times each rejected candidate has been re-examined during the past ten years.

Sir John Moore called attention in the course of his speech to the history of the Apothecaries' Hall of Ireland. He had himself noticed the result of the final examination since 1901, and he found that during the last six years 32 candidates had been examined for its Licence; of these, seven had passed. Let the members of the Council for a moment imagine all the machinery that had to be employed to license those seven men. He did not intend to put a slight upon the Apothecaries' Hall at all. If it ceased to license men for the medical profession and if it returned to its proper course of licensing pharmacists it would have, he believed, a very successful future before it. He thought they ought to get this information, because it was not all available from the books of the Council, and the question would soon arise whether representations should not be made to the Privy Council on the subject. He was aware of the fact that they could not make representations that the examination was insufficient, but they could make representations that the Hall, as a body, had so diminished in importance as not to require representation on the Council.

Dr. LITTLE seconded the motion.

Dr. ADYE-CURRAN expressed surprise that the motion had been brought forward. After its rejection last session it was in somewhat bad taste for Sir John Moore to bring it up again. If they had an Irishman to be hanged they always got an Irishman to pull the rope. There had been bad feeling for years between the Royal College of Physicians of Ireland and the Apothecaries' Hall of Ireland. However, during recent years there had not been a single fault found with the examinations of the Hall. Every inspector had complimented them on the manner in which the examinations were carried out. There was not a stricter set of examinations in Ireland. He asked the Council not to accede to this motion, because he did not think its information was really required.

After some discussion the motion was lost, 10 members voting for it and 13 against it. Nine members declined to vote.

On the motion of Dr. ADYE-CURRAN, Sir Lambert Ormsby, late President of the Royal College of Surgeons in Ireland, and Mr. F. Conway Dwyer, Fellow and examiner in surgery in the Royal College of Surgeons in Ireland, were appointed assistant examiners in surgery to the Apothecaries' Hall of Ireland, the former for a period of two years and the latter for a period of four years, in place of Sir Henry Howse and Mr. Alexis Thomson retired.

The Apothecaries' Society of London.

On the motion of Sir HUGH BEEVOR, Mr. Henry Percy Dean, L.S.A., M.B., M.S. Lond., F.R.C.S. Eng., was appointed assistant examiner in surgery to the Apothecaries' Society of London for a period of four years, in place of Mr. Peyton T. D. Beale who retired by rotation.

Nova Scotian Degrees.

A report was submitted from the Executive Committee stating that it had considered the conditions under which medical qualifications granted in the Province of Nova Scotia should be recognised for registration in the Colonial List of the *Medical Register* of the United Kingdom. The report further stated that on Feb. 27th, 1907, the committee adopted the following resolution:—

> That any person who holds (1) the diploma or licence in medicine, surgery, and midwifery granted after examination by the Provincial Medical Board of Nova Scotia, together with the licence to practise in that province; or (2) the degrees of doctor of medicine and master of surgery of the Dalhousie University, together with the aforesaid license to practise; or (3) the degrees of doctor of medicine and master of surgery of the Halifax Medical College, together with the aforesaid licence to practise, shall be entitled to be registered in the Colonial List of the Medical Register, provided he satisfies the registrar of the General Medical Council regarding the other particulars set forth in Part II. of the Medical Act, 1886.

The PRESIDENT moved:—

> That the report of the Executive Committee on the recognition of Nova Scotian degrees and diplomas be received and entered in the minutes, that the registrar be directed to give effect to the resolutions therein contained, and that the Council record satisfaction at the establishment of reciprocal relations with the Province of Nova Scotia.

The motion was agreed to unanimously.

Restoration to Medical Register.

After consideration *in camerâ* the PRESIDENT announced that the Council had resolved to direct the Registrar to restore to the Medical Register the name of Hugh Stanley Revell.

Clinical Teaching in Medicine and Surgery.

Dr. LINDSAY STEVEN moved:—

> That a committee of this Council be instructed to obtain information as to the methods of clinical teaching in medicine and surgery in operation at the various teaching centres of the United Kingdom, with special reference to the numbers of students attending the individual courses, the relationship of the number of beds at the command of the teacher to the number of students attending his course, and the probable influence of the teacher being at the same time the examiner upon the size of his class, and to report to the next session of Council.

He said that in his opinion, in order to make teaching both in medicine and in surgery efficient, there should be a definite relationship between the number of students and the amount of clinical material such as hospital beds. He also thought that it was desirable that the clinical class should be relatively a small one. In this connexion he would refer to the reports on the Scottish Universities received a few years ago, in which certain remarks were incorporated by the visitor and by the inspector of the Council to the effect that in their opinion candidates, while well up in book knowledge, were really defective in the practical application of their art, and they recommended more individual attention to the clinical side and practical work. Young medical men had had to learn after they had qualified what they ought to have learnt in the hospital, and he thought that it was most desirable that such a committee as he had suggested should be appointed.

Dr. MACKAY seconded the motion, although he said that his feeling was that while in the end they would have to take up the questions which Dr. Lindsay Steven had brought before them, it was perhaps a little premature to do so until preliminary matters had been settled by the Council.

The motion was subsequently withdrawn.

The Council adjourned till Wednesday.

WEDNESDAY, MAY 29TH.

Penal Cases.

During the first part of the day the Council was occupied in the discussion of penal cases.

The Council and the British Medical Association.

A report by the Executive Committee of the Council on a communication from the British Medical Association was then received and entered on the minutes. The communication from the Association called the attention of the General Medical Council to the fact that if the Central Ethical Committee of the Association should take upon itself the duty of bringing penal cases before the consideration of the Council legal difficulties might arise from members of the Council being members of the Association or of its central committees or central council. The report of the Executive Committee contained the resolution of the Committee that no member of the British Medical Association should act as a member of the Penal Cases Committee of the Council in cases in which the Association or any branch of it was acting as complainant. It was decided that the report of the Executive Committee, which was unanimously agreed to, should be sent to the General Secretary of the British Medical Association.

THE LANCET

SPECIAL SUPPLEMENT

IN SUPPORT OF THE

METROPOLITAN HOSPITAL SUNDAY FUND

Published in aid of the Appeal to be made on Sunday, June 9th, 1907.

TWENTY times already THE LANCET has published its Annual Supplement on behalf of the Metropolitan Hospital Sunday Fund. For thirty-five years the Collection has been made in the places of worship of all religious denominations in London and its suburbs, and in localities beyond those suburbs, on behalf of the noble medical charities of which not Londoners only but all Englishmen are justly proud. Once more THE LANCET urges its appeal, and if our Supplement may be said in its present issue to attain its majority, it is appropriate that it should find its responsibilities increased by circumstances.

On the present occasion it is our endeavour to direct the attention of those into whose hands these pages may fall to the need of the Hospitals of the Metropolis for help; to remind those thousands of friends whom the Metropolitan Hospital Sunday Fund has already won that now is the time to give fresh proof of their goodwill; and to win for the Fund new friends who may vie with the old ones in proving their claim to the title. Of new friends in this present year of 1907 the Metropolitan Hospital Sunday Fund stands truly in need, for it has endured sad loss during the past twelve months. Every year obliterates from the roll of London's citizens the names of good and generous men who have helped to make the burden of the poor lighter in their days of sickness and pain, and among these the name of Mr. George Herring will ever stand conspicuous.

The late Mr. Herring

died on November 2nd, 1906, and while we dwell in grateful recognition upon his charity we hope that the example which he set may live after him. It is for those now surviving him to bring about that which he would most have desired—that his loss shall not be irreparable. In 1899 Mr. George Herring first contributed a donation of £10,000 to the Metropolitan Hospital Sunday Fund, and he repeated his generous gift in 1900. After that year he adopted the method of stimulating others which proved so valuable to the Fund. Possibly it was suggested to his mind by the sporting instincts of his younger days, and it certainly had that sporting element in it which appeals to many of our countrymen. He pledged himself to add to the amount collected in places of worship and in the City a sum equal to one-fourth of its total. The proviso that he should not thus be called upon to pay more than £25,000 was never called into operation, but at the time of his death he had enriched the Fund directly to the extent of over £78,000. Mr. Herring's magnificent legacy to the Fund, which approaches, and may even pass £750,000, remains as a permanent benefit and a princely memorial to his munificence, but his living example is gone, and living endeavour is wanted to replace his efforts. It would not be easy to say to what extent he increased the Fund indirectly, but his pledge afforded to all who gave the pleasant knowledge that their donations, whether great or small, would bear immediate fruit to the extent of 25 per cent., and it is impossible not to believe that some were influenced by the fact. May they now remember that Mr. Herring has died since last they contributed, and may they make good the deficit which otherwise will be felt by the Hospitals and by those whom the Hospitals assist. In other words, let them select a sum greater by, at least, one quarter than the amount of their last year's gifts, in deciding how much they shall contribute to this year's Offertory. It may not be possible for all to do this; it is not likely that the suggestion will meet the eyes of everyone who gave last year and who will give on the present occasion, but a general increase of the public generosity will be required if the efficiency of the Hospitals is not to be impaired.

The Late Mr. Wakley and the Development of the Fund.

Another prominent friend of the Hospitals and of the Metropolitan Hospital Sunday Fund, whose death has been mourned since that of Mr. George Herring, was Mr. Thomas Henry Wakley, the Senior Editor of THE LANCET and the eldest son of its founder. Imbued throughout his life with a keen and practical interest in all that pertained to the medical profession, he had watched the birth and growth of the Metropolitan Hospital Sunday Fund, of which his brother, Dr. James G. Wakley, was one of the original founders, and throughout the period during which our Supplement has been issued he personally supervised its production, using as a guide his knowledge of the working of the Fund acquired as an active and assiduous member of its Council and of its General Purposes Committee. When we consider the growth of the Hospitals themselves, and the huge increase which has taken place in the field in which their work is performed, we can easily see that one who had enjoyed the long life of Mr. Wakley must have been more impressed by the never-diminishing needs of the institutions themselves than by the success of any appeal made on their behalf. In contrasting the London of 1849 with that of the reign of Charles II., Lord Macaulay, in Chapter III. of his History, drew a vigorous picture of modern civilization as he saw it around him, and of the comparative barbarism of the later portion of the 17th century. Of the growth of London since that date he wrote, as if with pride, "The inhabitants, who are now at least nineteen hundred thousand, were then probably little more than half a million"; and in describing its extension in all directions he said, "Chelsea, which is now peopled by more than forty thousand human beings, was a quiet country village with about a thousand inhabitants. On the north cattle fed and sportsmen wandered with dogs and guns over the site of Marylebone. . . . . On the south the Capital is now connected with its suburb by several bridges, not inferior in magnificence and solidity to the noblest works of the Cæsars."

That the historian should have been justified in classing what we now should call "London south of the Thames" as a "suburb," is a vivid illustration of the difference which half a century has wrought. Let us remember that this difference arose in the life-time of Mr. Wakley, in order that we may appreciate what the work of the Hospitals has been in whose prosperity he took so keen an interest. The Hospitals have had to keep abreast of the growth and progress around them, and the need of the poor will not diminish while London is trading with the whole civilized and uncivilized world.

The Increasing Demand.

We are reiterating a tale that has been told not twice but many times in these columns, and if we lay stress upon the fact of London's increase in population we have supplied the reason for a reiteration which should be couched, if it were possible, in stronger terms from year to year. The ever-widening circle of those who depend upon the Metropolitan Hospitals calls for a provision of the necessities imposed by the progress of modern science. There is a demand for buildings, for operating theatres, for instruments and apparatus of all kinds, for nursing and service of every description, which must all be in conformity with the highest standards.

The rapid improvement in science, contemporaneous with the recent growth of the population, must be remembered, while we remind our readers of a modern development for which they are in part responsible, and which they will not, we know, desire to see arrested. Public benevolence as we understand it in 1907 is largely an outcome of our civilization. There were kind-hearted men, all honour to their memory, who founded the great Hospitals of London in the old days that have passed away, but none can say that the attitude of the public mind was what it now is towards poverty and suffering. Let us remember the small bands of men and women who first organized attacks upon the slave-trade not so very long ago, and the Howards and the Frys who called public attention to our prisons. The increase of London's population since the age of the Stuarts, and again since the commencement of the Victorian era, the improved social conditions, the altered sanitary surroundings and demands of its inhabitants, have taken more than two centuries to bring about, and the change, rapid of late years, was at one time more gradual and more easily observed and controlled. Perhaps if there had been during all those years the same public demand for philanthropic enterprise as now, if the support of hospitals organized like those of to-day had been a recognised form of universal almsgiving—if, for example, the Metropolitan Hospital Sunday Fund had been first instituted by Nell Gwynne when she promoted (or did not promote) the foundation of Chelsea Hospital—who shall say that the growth of the Hospitals' resources might not have kept pace with the expansion of the sphere within which their beneficence was to be exercised? What might have been the result, too, of donations and legacies invested in suburban land in the days when, as Macaulay reminds us, Oxford Street (surely not the Oxford Road) ran between hedges?

The organization of charity, however, so far as this has been achieved (and much remains to be done), the periodical concentration of public attention upon the Hospitals of London, and the energetic public appeals now made on behalf of individual institutions, belong to our own times. The increase of London's inhabitants by some millions has come more or less with a rush, and who can justly express surprise or dissatisfaction if the end to be desired is not yet reached and if the Hospitals are "begging" with insistency and with tales of poverty that do not diminish. They live from hand to mouth through no fault of theirs, and if they fail to attain the ideal position which their well-wishers desire for them, or if from time to time they permit their expenditure to exceed their incomes, the remedy is still the same. Give! Give freely and without stint or economy. The Hospitals will practise economy when it comes to spending what they receive. The Metropolitan Hospital Sunday Fund will see to that, and will itself exercise prudence and economy in administering the resources placed at its disposal; but the gifts of the public need to be regulated by no consideration that the amplest charity will ever be either superfluous or misplaced.

The Ever-growing Population.

It may be suggested that as London spreads so its wealth increases, and that from the fringe of villas which marks the enlargement of its borders, from those ever-rising blocks of flats and rows of houses which spring up where slums have once stood, there should flow almost automatically enough money to compensate for any augmentation of the working classes and of the horde of casual workers and non-workers who are chronically and irremediably poor. If, however, any think seriously that the increase of London's population has been accompanied by such an increase of wealth that the Hospitals might have been expected to secure financial benefits corresponding to the fresh demands for their help, let them reflect that the influx during the past twenty-five years has taken place from the poorer classes of society. Just as the Hospitals open their doors to all alike, excluding none on account of race or of religious opinion, examining the moral character of none and taking no account of a criminal record, so in like manner London has been a Mecca for pilgrims of all ranks and degrees of riches or of poverty, with this difference, that, unlike the pilgrims who visit a shrine and depart, those least likely to make desirable inhabitants come to stay. London has attracted, as if by some magnetic influence, the energetic worker (with or without capital) and the confirmed idler, the artizan in search of better wages, and the unskilled labourer from rural districts together with the degenerate and the vagrant in search of relief for the "unemployed." It has opened its doors (with the exception of the enforcement of a recent statute of limited application) to a miscellaneous crowd of aliens, desirable and absolutely undesirable, healthy and diseased, from every country under the sun. In such circumstances it would have been nothing short of miraculous if the power of the Hospitals to deal with the human suffering at their doors had increased in proportion to the swelling crowd of those congregating to seek admittance, and the governing bodies of Hospitals *do not claim to work* miracles any more than do the physicians and surgeons who perform their duties in the wards. It is, we fear, utopian to suggest that the large number of those who come to us as strangers and who accumulate wealth in our midst should give with sufficient liberality to meet the demands which newcomers like themselves but in humbler social grades make for charitable assistance. We would, however, point out to those practising their callings with success, or, perhaps, piling up fortunes in London, but who nevertheless are recent sojourners, that the Metropolitan Hospital Sunday Fund enables them to offer some return for the hospitality which we Londoners so freely accord to them. Let them look, moreover, at the list of Hospitals to which the Fund distributes the money subscribed, and they will see included in it institutions the titles of which proclaim the nationalities of those for whom they are primarily designed side by side with our native institutions. Let them visit the Hospitals of London that are purely British in title, and they will find in their wards foreigners of every description.

STATISTICS OF HOSPITAL WORK IN LONDON DURING THE YEAR 1906.

TABLE I.—GENERAL HOSPITALS.*

N.B.—The figures referring to out-patients in these Tables represent the number of VISITS *paid by out-patients—*NOT *the* NUMBER *of out-patients.*

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
Charing Cross	1,205	2,539	765	1,583	133	146	207	70,165	10,390
French	356	836	346	420	246	49	21	13,416	959
German	591	1,824	529	1,048	405	121	126	67,580	3,625
Great Northern Central	1,069	2,301	1,952		129	141	208	76,753	10,029
Guy's	1,685	8,447	6,704		813	535	734	341,043	91,052
Hampstead General	234	622	—	—	—	50	43	10,353	925
Italian	206	846	190	721	35	41	16	40,479	254
King's College	1,359	2,684	562	643	257	209	65	40,601	5,969
London	5,433	13,439	5,441	5,934	2,041	756	1,465	697,253	17,276
London Homœopathic	476	1,183	419	493	172	66	65	46,741	6,054
Phillips' Memorial Homœopathic	34	145	19	110	3	9	10	2,364	22
London Temperance	722	1,266	312	756	—	79	115	24,490	17,492
Metropolitan	1,050	1,548	312	916	362	103	217	123,214	12,946
Mildmay	281	612	101	407	88	44	34	47,041	7,013
Miller Hospital and Royal Kent Dispensary...	258	235	89	153	7	22	14	83,517	7,707
North-West London	422	723	98	510	24	38	57	46,641	7,254
Poplar	525	1,644	—	—	39	75	103	65,499	—
Kensington General	159	306	29	239	4	21	13	35,076	2,957
Royal Free	1,134	2,474	1,981		261	166	190	80,290	27,623
St. George's	1,838	4,843	2,886		1,240	319	373	121,958	33,418
SS. John and Elizabeth	309	338	303		—	80	23	—	—
St. John's, Lewisham	145	270	65	145	—	29	16	1,100	—
St. Mary's	2,344	4,296	1,538	2,049	325	252	359	135,376	423
Seamen's Hospital Society	1,378	2,258	409	1,479	60	233	177	112,732	—
The Middlesex Hosp. and Convalescent Home	2,100	3,659	2,860		—	268	293	123,740	31,069
Tottenham	544	1,103	226	605	—	71	162	76,351	14,405
University College	1,706	3,498	987	1,619	380	250	338	234,084	51,216
Walthamstow, &c.	136	451	37	354	18	26	32	10,079	750
West Ham	544	568	31	296	—	53	65	95,805	11,671
West London	1,078	2,303	1,936		—	132	235	115,335	—
Westminster	1,500	2,572	1,712		418	189	253	72,205	10,933
	£30,831	70,088	12,495	20,395	7,465	4,585	6,024	2,936,234	383,618
Estimated to supply omissions	—	—	8,457	13,793	862	—	—	—	15,225
Total	£30,831	70,086	20,952	34,183	8,327	4,685	6,024	2,936,234	393,843

* We reproduce the term "General Hospitals" as employed by the Council of the Metropolitan Hospital Sunday Fund.

It is this unquestioning charity of the Hospitals which drains their resources and which at the same time strengthens their claim upon the generosity of all. Still more forcibly should this claim be recognised when it is pressed in the places of worship of all congregations of every shade and variety of religious belief as an appeal to the common humanity of those who assemble within their walls. Poverty and sickness; need and pain—if only these two causes are united they are all-sufficient. No questions of character or of religion are raised when human life is or may be at stake. Probably this fact was brought forcibly home to some who had not reflected upon it before when they read recently of the murderer of Mr. William Whiteley being taken straight to a Hospital, tended there, and nursed back to life. They saw in the newspapers accounts of the police officer who watched over the wretched Rayner's bedside, and they talked of the incident as if it were an extraordinary one.

It was nothing of the kind; the policeman in charge of the would-be suicide, or of the burglar who has injured himself in trying to escape apprehension is, so to speak, a "common object" in Hospital wards. A few years ago we published in one of our Annual Supplements "testimonials" from grateful patients in the principal Hospitals of London, and our Commissioner, in describing his experiences while collecting them, narrated how in one Hospital he had come across a man lying in bed while a policeman kept watch and ward over him. He made inquiry, and found that this man had broken his leg in jumping from a wall after breaking open and robbing—what?—a collecting box for contributions to the very Hospital in which he was being tended. The Samaritan tended the wounded stranger who had fallen among roadside thieves; the Hospital in this instance tended him who had been trying to filch from it the money essential to its subsistence.

Who should give.

During the years in which THE LANCET has issued its Supplement we have chronicled subscriptions which amount to a goodly sum. In many years £40,000 has been exceeded, and £40,000 per annum is a large income to raise and to distribute, but when we look at the donations of £1,000 or more, and when we note the large amounts contributed by some of the Churches which are known to have rich congregations we may well feel doubtful as to whether the giving to the Hospital Sunday Fund is in the least general among our population. There are few of those removed from actual poverty who cannot give something, whether man, woman, or child; very few to whom to do so would necessitate an act of self-denial of a serious character. A few ounces of tobacco, a seat at a place of amusement, a yard or two of ribbon or a few ounces of sugar plums, these are the abnegations which would enable "quite poor people" to exceed the average donation of the London citizen to the Fund. The Metropolitan Hospital Sunday Fund has earned the goodwill of rich givers like Mr. George Herring because it has done its work

TABLE II.—SPECIAL HOSPITALS.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	900	1,025	974	—	—	133	51	62,060	—
Hospital for Consumption...	2,203	1,455	1,130		217	314	101	61,168	—
Mount Vernon Consumption	909	1,291	—	—	—	—	25	15,250	—
Royal Hospital for Diseases of Chest	553	583	472		41	59	52	24,412	—
Royal National Hospital for Consumption...	338	754	621	—	—	146	17	—	—
Alexandra Hospital for Hip Disease	384	180	14	62	3	97	4	1,125	—
Banstead Surgical Home	23	87	50	29	—	14	1	—	—
Barnet Home Hospital	43	14	18	3	—	12	1	—	—
Belgrave Hospital for Children	136	608	160	220	45	32	132	34,660	694
Cheyne for Incurable ,, ...	141	16	2	10	8	50	4	—	—
East Lond. Hosp for ,, ...	750	2,054	928	608	281	116	402	98,835	4,647
Evelina Hosp. for Sick ,, ...	183	—	—	—	—	—	—	—	—
Home for Incurable ,, ...	80	15	11	—	—	34	3	—	—
Home for Sick ,, ...	117	276	—	—	130	41	13	3,958	—
Hospital for Sick ,, ...	1,041	3,068	1,257	985	373	200	519	104,693	745
Infants' Hospital, Hampstead	—	147	26	95	—	15	11	—	—
Kensington Hosp for Children	84	—	—	—	—	—	—	—	—
North-East. Hosp. for ,, ...	563	1,832	314	1,057	54	123	288	76,247	12,591
Paddington Green for ,, ...	188	697	560		151	41	96	68,934	1,684
St. Mary's for ,, ...	263	658	166	436	—	25	66	19,933	16,538
St. Monica's for ,, ...	75	137	104		—	22	11	—	—
Victoria Hospital for ,, ...	563	1,008	231	526	300	78	129	64,634	2,000
Victoria Home, Margate	38	127	55	22	—	47	3	—	—
Hospital for Hip Disease	42	50	—	11	—	37	—	—	—
British Lying-in	70	615	—	—	33	25	—	—	—
City of London Lying-in	200	639	—	637	10	31	2	26,467	—
Clapham Maternity	28	465	—	—	—	—	2	16,401	—
East-End Mothers' Home	75	430	428		7	20	2	8,414	—
General Lying-in	28	624	—	—	—	—	3	19,790	—
Queen Charlotte's Lying-in	469	1,704	1,694		138	—	10	18,860	—
Chelsea Hospital for Women	281	773	721		200	42	11	9,390	—
Hospital for Women	403	896	317	523	88	66	13	16,338	—
Grosvenor Hosp. for Women and Children...	159	405	148	223	—	31	16	16,360	—
New Hospital for Women	225	743	—	—	—	66	—	31,905	—
Royal Waterloo Hos. for Children and Women	47	312	128	139	11	23	34	37,952	—
Samaritan Free	422	590	71	399	60	38	18	16,889	—
Cancer	—	817	695		37	71	113	17,376	—
Middlesex (Cancer Wing)	263	159	—	—	—	44	78	487	—
London Fever	188	591	—	560	47	71	13	—	—
Gordon for Fistula	14	351	20	329	—	14	2	2,935	—
St. Mark's ,, ...	248	481	43	392	—	41	6	4,480	—
National for Diseases of Heart, &c.	165	172	154		—	24	18	20,948	—
Female Lock	253	430	428		—	82	1	2,178	—
Hospital for Epilepsy, &c.	127	139	—	—	3	35	4	12,668	—
National for the Paralysed, &c.	1,078	1,108	351	173	83	166	42	40,860	—
West-End for Nervous System	291	480	399	78	14	44	3	64,790	—
Central London Ophthalmic	159	355	354		3	11	—	31,230	514
Royal Eye	267	666	666		—	19	—	78,990	2,256
Royal London Ophthalmic	1,031	2,071	—	—	9	93	4	123,355	1,921
Royal Westminster ,, ...	159	731	733		6	21	—	38,500	—
Western ,, ...	75	374	254	120	—	7	—	29,358	—
City Orthopædic	164	—	—	—	—	—	—	—	—
Royal National Orthopædic	150	268	214		—	52	—	9,126	—
Royal Sea Bathing Hospital	272	588	378	68	—	97	7	—	—
St. John's Hospital for Diseases of Skin ...	19	224	—	—	—	24	1	34,856	—
Western Skin	5	—	—	—	—	—	—	8,219	—
St. Peter's for Stone	70	450	—	406	—	16	23	40,867	—
Central London Throat and Ear	43	413	46	351	3	10	3	47,032	—
Hospital for Diseases of Throat	28	668	54	576	8	19	11	51,555	23
London Throat	23	407	399		4	8	2	17,346	—
Royal Ear...	27	460	—	—	—	9	3	11,854	—
Royal Dental	291	—	—	—	—	—	—	53,605	—
National Dental	15	—	—	—	—	—	—	27,588	—
	£17,439	36,579	7,030	9,028	2,357	2,926	2,368	1,614,468	43,513
Estimated to supply omissions	—	1,321	6,821	8,670	184	222	200	69,804	12,419
Total	£17,439	37,900	13,851	17,698	2,541	3,148	2,568	1,684,272	55,932

with care and efficiency, but it was instituted not merely to convey the donation of the wealthy man, but in order to collect the anonymous offerings of all who in a particular week attend religious worship, and of all who on the day set apart for rest enjoy that leisure which the work of the week has earned for them. To many of these a substantial gift means very little in the way of self-denial. But whether it does so or not, is not the object worthy of the sacrifice? That object is to relieve the poor when overcome by bodily suffering, or incapacitated by injury or disease; to help those to whom no relief can come save only if charity will provide it, and for whom bodily weakness and disease mean incapacity for work, helplessness, and starvation. Surely such an object should appeal to men

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
Metropolitan Convalescent (Walton and Broadstairs)	628	4,839	2,141	2,654	—	141	3	—	—
Metropolitan Convalescent (Bexhill)	413	2,714	413	2,242	—	59	—	—	—
All Saints' „ (Eastbourne)	375	3,415	1,173	2,118	—	92	3	—	—
„ „ (St. Leonards-on-Sea)	23	250	116	134	—	9	—	—	—
Ascot Priory „	70	213	—	—	—	—	—	—	—
Brentwood „	9	140	—	—	—	—	—	—	—
Charing Cross Hospital Convalescent	70	388	—	385	—	14	—	—	—
Chelsea Hospital for Women Convalescent ...	42	305	—	—	—	20	—	—	—
Deptford Medical Mission „ ...	19	—	—	—	—	—	—	—	—
Fairlight Convalescent	23	179	—	—	—	15	3	—	—
Friendly Societies' Convalescent...	84	1,051	—	—	—	—	—	—	—
Mrs. Gladstone „	69	818	724		—	—	1	—	—
Hahnemann „	28	183	171	2	—	28	—	4,194	—
Hanwell „	16	214	214	—	—	12	—	—	—
Hendon, Ossulston Home	53	620	—	—	—	—	—	—	—
Herbert Convalescent „	23	494	267	161	—	63	3	—	—
Herne Bay (Baldwin-Brown) Convalescent ...	56	450	—	—	—	—	—	—	—
Homœopathic Hospital „ ...	23	212	—	—	—	6	—	—	—
Hemel Hempstead „ ...	43	481	110	353	—	9	1	—	—
Incorporated Morley and Bevan „ ...	281	1,366	—	—	—	47	—	—	—
Mrs. Kitto's „ ...	47	364	—	—	—	—	—	—	—
London, Hospital „ ...	68	148	42	86	—	12	—	—	—
Mary Wardell „ ...	56	187	—	—	—	13	2	—	—
Police Seaside Home	47	784	784		—	—	—	—	—
St. Andrew's (Clewer) Convalescent	94	—	—	—	—	—	—	—	—
„ (Folkestone) „	169	2,166	—	—	—	70	2	—	—
St. John's Home for Convalescent Children ...	33	343	—	—	—	27	1	—	—
St. Joseph's Convalescent	56	593	423	133	—	27	—	—	—
St. Leonards-on-Sea „	96	927	—	—	—	—	—	—	—
St. Mary's „	21	105	105		—	7	—	—	—
St. Michael's „	33	328	—	—	—	—	—	—	—
Seaside „	94	—	—	—	—	—	—	—	—
Acton Cottage Hospital	56	193	174		—	7	19	5,618	1,410
Beckenham Cottage Hospital	75	230	60	206	—	14	10	427	73
Billingsgate Medical Mission	47	148	35	111	8	6	3	13,813	—
Blackheath and Charlton Cottage Hospital ...	80	—	—	—	—	—	—	—	—
Bromley, Kent „ ...	117	613	40	421	13	18	24	—	159
Bushey Heath „ ...	35	153	16	121	2	7	2	1,118	17
Canning Town „ ...	58	256	253		17	—	15	12,883	—
Chislehurst, Sidcup, &c., „ ...	61	—	—	—	—	—	—	—	—
Coldash „ ...	21	71	27	18	—	20	2	—	—
East Ham „ ...	72	178	5	143	—	14	12	17,093	—
Eltham „ ...	45	255	25	200	4	14	11	—	23
Enfield „ ...	66	205	16	175	—	16	11	—	12
Epsom and Ewell „ ...	51	126	13	92	16	11	7	—	22
Hounslow „ ...	42	173	22	131	1	10	9	3,590	336
Dartford „ ...	84	164	18	119	—	15	12	—	45
Kingston, Victoria Hospital... „	63	226	29	172	9	6	4	—	54
Mildmay Cottage Hospital	23	197	58	73	18	26	21	—	—
Reigate and Redhill „	103	632	34	370	—	—	15	—	94
Sidcup „	33	183	30	144	2	9	4	419	—
Tilbury (Passmore Edwards) Cottage Hospital	47	123	—	—	—	9	—	2,200	—
Willesden „ ...	103	290	237		—	19	18	—	—
Wimbledon „ ...	47	182	21	143	—	8	6	174	53
Wimbledon, South, „ ...	47	265	12	230	4	6	11	—	199
Woolwich and Plumstead Cottage Hospital ...	52	106	21	62	3	10	10	—	26
Bolingbroke Hospital	272	683	138	456	—	23	66	31,706	6,784
Hospital for Invalid Gentlewomen	94	169	13	157	—	17	2	—	—
St. Saviour's Hospital and Nursing Home ...	95	136	43	80	—	9	4	—	—
National Sanatorium for Consumption	94	393	395	—	—	85	1	—	—
Invalid Asylum...	38	231	75	127	6	22	1	—	—
Firs Home	28	56	22	—	—	18	16	—	—
St. Catherine's Home	23	32	30	—	—	12	2	—	—
Friedenheim Home for the Dying	300	150	10	2	5	42	121	—	—
Oxygen Home	37	—	—	—	—	—	—	—	—
Santa Claus Home	69	68	47	1	—	19	—	—	—
Free Home for Dying	122	86	23	—	—	9	54	—	—
St. Luke's House	112	140	27	—	—	32	81	—	—
Royal Mineral Water Hospital	47	1,203	1,147	16	—	155	3	—	—
Eversfield	—	322	207	34	—	60	11	1,938	—
St. Winifred's Home	58	51	32	—	—	18	—	—	—
	£5,990	32,956	7,751	11,972	107	1,416	607	95,178	9,307
Estimated to supply omissions	—	1,301	3,205	7,844	—	328	56	3,660	—
Total	£5,990	34,257	10,956	19,816	107	1,744	663	98,838	9,307

which amount to a goodly sum. In many years £40,000 has been exceeded, and £40,000 per annum is a large income to raise and to distribute, but when we look at the donations of £1,000 or more, and when we note the large amounts contributed by some of the Churches which are known to have rich congregations we may well feel doubtful as to whether the giving to the Hospital Sunday Fund is in the least general among our population. There are few of those removed from actual poverty who cannot give something, whether man, woman, or child; very few to whom to do so would necessitate an act of self-denial of a serious character. A few ounces of tobacco, a seat at a place of amusement, a yard or two of ribbon or a few ounces of sugar plums, these are the abnegations which would enable "quite poor people" to exceed the average donation of the London citizen to the Fund. The Metropolitan Hospital Sunday Fund has earned the goodwill of rich givers like Mr. George Herring because it has done its work

TABLE II.—SPECIAL HOSPITALS.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	900	1,025	974	—	—	133	51	62,060	—
Hospital for Consumption...	2,203	1,455	1,130		217	314	101	61,163	—
Mount Vernon Consumption	909	1,291	—	—	—	—	25	15,260	—
Royal Hospital for Diseases of Chest	553	583	472		41	59	52	24,412	—
Royal National Hospital for Consumption...	338	754	621	—	—	146	17	—	—
Alexandra Hospital for Hip Disease	384	180	14	62	3	97	4	1,125	—
Banstead Surgical Home	23	87	50	29	—	14	1	—	—
Barnet Home Hospital	43	14	18	3	—	12	1	—	—
Belgrave Hospital for Children	136	608	160	220	45	32	132	34,550	694
Cheyne for Incurable ,, ...	141	16	2	10	8	50	4	—	—
East Lond. Hosp. for ,, ...	750	2,054	928	608	281	116	402	98,835	4,647
Evelina Hosp. for Sick ,, ...	183	—	—	—	—	—	—	—	—
Home for Incurable ,, ...	80	15	11	—	—	34	3	—	—
Home for Sick ,, ...	117	276	—	—	130	41	13	3,958	—
Hospital for Sick ,, ...	1,041	3,068	1,257	985	373	200	519	104,693	745
Infants' Hospital, Hampstead	—	147	26	95	—	15	11	—	—
Kensington Hosp for Children	84	—	—	—	—	—	—	—	—
North-East. Hosp. for ,, ...	563	1,832	314	1,057	54	123	288	76,247	12,691
Paddington Green for ,, ...	188	697	560		151	41	96	58,934	1,584
St. Mary's for ,, ...	263	658	166	436	—	25	66	19,933	16,538
St. Monica's for ,, ...	75	137	104		—	22	11	—	—
Victoria Hospital for ,, ...	563	1,008	231	526	300	78	129	64,634	2,000
Victoria Home, Margate	38	127	55	22	—	47	3	—	—
Hospital for Hip Disease	42	50	—	11	—	37	—	—	—
British Lying-in	70	515	—	—	33	25	—	—	—
City of London Lying-in	200	639	—	637	10	31	2	26,467	—
Clapham Maternity	28	465	—	—	—	—	2	16,401	—
East-End Mothers' Home...	75	430	428		7	20	2	9,414	—
General Lying-in	28	624	—	—	—	—	3	19,790	—
Queen Charlotte's Lying-in	469	1,704	1,694		138	—	10	18,860	—
Chelsea Hospital for Women	281	773	721		200	42	11	9,390	—
Hospital for Women	403	896	317	523	88	56	13	16,338	—
Grosvenor Hosp. for Women and Children...	159	405	148	223	—	31	16	16,360	—
New Hospital for Women	225	743	—	—	—	56	—	31,805	—
Royal Waterloo Hos. for Children and Women	47	312	128	139	11	23	34	37,952	—
Samaritan Free	422	590	71	399	50	38	18	16,889	—
Cancer	—	817	695		37	71	113	17,376	—
Middlesex (Cancer Wing)	263	169	—	—	—	44	78	487	—
London Fever	188	591	—	560	47	71	13	—	—
Gordon for Fistula	14	351	20	329	—	14	2	2,935	—
St. Mark's ,, ...	248	481	43	392	—	41	5	4,480	—
National for Diseases of Heart, &c.	155	172	154		—	24	18	20,948	—
Female Lock	253	430	428		—	82	1	2,178	—
Hospital for Epilepsy, &c.	127	139	—	—	3	35	4	12,658	—
National for the Paralysed, &c.	1,078	1,108	351	173	83	156	42	40,860	—
West-End for Nervous System	291	480	399	78	14	44	3	64,790	—
Central London Ophthalmic	159	355	354		3	11	—	31,230	514
Royal Eye	267	666	666		—	19	—	78,990	2,256
Royal London Ophthalmic	1,031	2,071	—	—	9	93	4	123,355	1,921
Royal Westminster ,, ...	159	731	733		6	21	—	38,500	—
Western ,, ...	75	374	254	120	—	7	—	29,358	—
City Orthopædic	164	—	—	—	—	—	—	—	—
Royal National Orthopædic	150	266	214		—	52	—	9,126	—
Royal Sea Bathing Hospital	272	588	372	58	—	97	7	—	—
St. John's Hospital for Diseases of Skin ...	19	224	—	—	—	24	1	34,856	—
Western Skin...	5	—	—	—	—	—	—	8,219	—
St. Peter's for Stone	70	450	—	406	—	16	28	40,867	—
Central London Throat and Ear	43	413	46	351	3	10	3	47,032	—
Hospital for Diseases of Throat	28	668	54	576	8	19	11	51,555	23
London Throat	23	407	399		4	8	2	17,346	—
Royal Ear...	27	460	—	—	—	9	3	11,854	—
Royal Dental	291	—	—	—	—	—	—	53,505	—
National Dental	15	—	—	—	—	—	—	27,588	—
	£17,439	36,579	7,030	9,028	2,357	2,926	2,368	1,614,463	43,513
Estimated to supply omissions	—	1,321	6,821	8,670	184	222	200	69,804	12,419
Total	£17,439	37,900	13,851	17,698	2,541	3,148	2,568	1,684,272	55,932

they are ill, and they have no money because they cannot work. The intervention of the Hospital saves them. The degree of success achieved in that intervention will vary with the patient's case; the degree of gratitude will differ between one patient and another according to temperament. One question, however, should follow, either to be replied to by the patient, or for the interlocutor himself to supply the answer, "What would have happened if there had been no Hospital?" The nature of the probable answer we leave to our readers who may care to imagine the scene which we have suggested, and we add the further question, "What would happen to the Hospitals without money?" The Metropolitan Hospital Sunday Fund supplies the Hospitals with part of their incomes, a substantial item which for many years they have learnt to expect regularly, with the hope always of a possible increase in the sums allotted. We ask that a generous and general rise in the gifts of individuals and in the number of those giving may cause that hope to be realized in the present year.

TABLE SHOWING THE RESULTS OF COLLECTIONS SINCE THE COMMENCEMENT OF THE FUND.

Year.	Totals.	Donations.	Year.	Totals.	Donations.
1873	£27,700	£1544	1890	£42,914	£3391
1874	29,936	1505	1891	45,330	9919
1875	25,396	1424	1892	41,512	4429
1876	27,042	1339	1893	39,290	3682
1877	26,092	947	1894	43,679	7717
1878	24,904	1199	1895	60,361	21,990
1879	28,501	1120	1896	46,055	5555
1880	30,423	1567	1897	41,003	3607
1881	31,656	1656	1898	43,397	3064
1882	34,146	2106	1899	53,504	15,310
1883	33,935	1900	1900	51,993	16,137
1884	39,329	6410	1901	54,731	18,345
1885	34,320	2555	1902	62,669	16,507
1886	41,399	4517	1903	64,975	15,766
1887	40,607	4130	1904	63,064	15,143
1888	42,579	3300	1905	76,579	29,425
1889	41,744	3432	1906	65,075	18,441

1884. Including £4500 from the International Health Exhibition.

1885, 1886, 1887. Including three donations of £1000 each from Dr. James Wakley, Editor of THE LANCET.

1891. Including £5000 from the late Duke of Cleveland, &c.

1894. Including a legacy of £5000 (less duty) from the executors of the late Mr. W. J. Whitaker.

1895. Including £10,000 from Messrs. Barnato and friends; £5400 from the Stock Exchange; £1000 from Lord Iveagh; and £1000 from Mr. J. B. Robinson.

From 1891 to 1895 Sir Saville Crossley, Bart., P.C., M.P., gave an annual donation of £1000, and since has divided his contribution between this Fund and King Edward's Fund.

1897. Jubilee year. H.R.H. the Prince of Wales started a Special Fund for Hospitals.

1899. Including £10,000 from Mr. George Herring, and £1050 from Mr. J. Lane Densham.

1900. Including a further £10,000 from Mr. George Herring, £1050 from Mr. Thos. King, and "F. H." £1000.

1901. Including a further £10,000 from Mr. George Herring, and £4000 from Sir F. Cook, Bart., M.P.

1902. Including a further £11,575 from Mr. George Herring, and £1000 from Mr. Charles Morrison.

1903. Their Majesties the King and Queen, with most of the other Members of the Royal Family, attended at St. Paul's Cathedral. Including a further £12,322 from Mr. George Herring.

1904. Including a further £11,925 from Mr. George Herring.

1905. Including a further £12,400 from Mr. George Herring, and £12,500 from the executors of Mr. F. W. Cook.

1906. Including a further £11,000 from Mr. George Herring and £5000 on account of the legacy bequeathed by Mr. Herbert Lloyd.

There can be no doubt that the influence of the Metropolitan Hospital Sunday Fund, together with the income which the public intrusts to it annually for distribution, has steadily increased, and that it owes its growth to the confidence which it has earned by what it has done. In the absence of any Central Board directing and controlling the management of the Hospitals as a whole, the Council of the Fund has made its influence felt in the conduct of various institutions. It has accompanied the distribution of the amount intrusted to it with suggestions and criticisms, in such a manner as to lend weight to its recommendations. In this way it has exercised supervision over expenditure and has laid down for the guidance of all the principle that a pound of revenue is expected to produce not less than a full pound's value of that which a Hospital should supply. It is the knowledge that its subscribers "get their money's worth" which wins contributions for the Metropolitan Hospital Sunday Fund from those who recognise the fact that economy and organization combined render charity effective, whereas indiscriminate and ill-directed almsgiving will only result in waste of money and energy. It is to the practical man who is a man of business as well as a benevolent citizen that the Fund commends itself as representing order, fairness, and economy in the distribution of limited and valuable assets among those entitled to enjoy them.

The Appeal is to All.

When we ask for contributions to the Metropolitan Hospital Sunday Fund we confine ourselves to no rank or division of the community. We believe that a large proportion of the class that benefits directly by the Hospitals can give of their small means because, leaving out those who are absolutely destitute, there is a considerable population of working men and women who, in their day of need, if it should ever come, will be helped by the Hospitals out of all proportion to any gift that they may ever have brought, and who, in their time of health and of comparative prosperity, should do what they can to provide aid for their fellow workers less fortunate than themselves. We do not ask them to give in order to provide or to assist Hospitals for their own reception, or to regard their gifts as maintaining institutions into which they will be received as a right or as the result of their own prudence. We prefer to urge upon them that the Hospitals are charities which they, in health and therefore comparatively affluent, help to support for

SUMMARY OF TABLES.

—	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
General Hospitals	£59,531	70,088	20,982	34,165	8,327	4,585	6,024	2,956,234	388,543
Special Hospitals	17,459	37,900	13,551	17,693	2,541	3,145	2,553	1,684,272	55,952
Cottage Hospitals and Convalescent Homes	6,990	34,257	10,966	19,516	107	1,744	663	92,958	9,307
Dispensaries	2,209	—	—	—	—	—	—	1,067,575	—
Nursing Associations	1,150	—	—	—	—	—	—	751,315	—
Total	£87,549	142,245	45,739	71,597	10,975	9,477	9,255	6,552,555	454,002

and women alike, and to children as well as to those who are of riper years. In all these also self-denial may be supplemented by a little effort. There is ever a little work to be done on behalf of a good cause; supporters of the Fund should not be content with giving themselves, but should induce others to do so too, reminding all who might otherwise forget, and winning for the Fund those new friends of whom it can never have too many.

It is not difficult, by the way, to forget; and it is always easy to plead forgetfulness. There are some who attend a place of worship but who only go provided with their usual offering, something which custom has perhaps reduced to a minimum. These surely may be reminded that Hospital Sunday is an occasion for exceptional generosity. Some may be prevented from attending Divine worship in the particular week in which Hospital Sunday occurs. This is no reason why their alms should not be intrusted to the hand of someone who may have recalled the needs of the Fund to their slumbering memories. Many leave London for the day on Sunday and attend no place of worship at all, or, in pursuance of what has now become a fashion of wide influence, leave London at the end of the week not to return until Monday morning. It is not for us to criticise them or to question their motives; but we would ask them not, in their absence, to forget those to whom health means the power to earn wages, and upon whose wages depends the very existence of their homes. We ask for a substantial gift from these absentees, and we earnestly beg all who are able to do so to remind them of a duty the performance of which should be a privilege and a pleasure.

TABLE IV.—DISPENSARIES.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£112	67,424
Blackfriars ,,	19	6,095
Bloomsbury ,,	14	4,025
Brixton, &c.	50	26,404
Brompton Provident	19	2,653
Buxton Street	19	3,560
Camberwell Provident	78	100,313
Camden Town ,,	15	8,096
Chelsea, Brompton, and Belgrave	44	7,978
Chelsea Provident	13	2,672
Child's Hill ,,	16	—
City	52	24,504
City of London and East London	9	102,740
Clapham General and Provident	23	12,144
Deptford Medical Mission	23	—
Eastern	35	26,614
East Dulwich Provident	38	21,414
Farringdon General	42	11,421
Finsbury	47	27,861
Forest Hill Provident	38	5,724
Greenwich ,,	32	15,071
Hackney ,,	17	1,700
Hampstead ,,	58	—
Holloway and North Islington	42	—
Islington	56	55,585
Islington Medical Mission	38	—
Kennington and Vauxhall Provident	13	4,619
Kensal Town Provident	16	4,449
Kentish Town Medical Mission	20	3,500
Kilburn, Maida Vale, and St. John's Wood	38	11,816
Kilburn Provident Medical Mission	47	21,630
London	14	—
London Medical Mission	116	34,814
Margaret-street, for Consumption	22	6,362
Metropolitan	58	—
Mildway Medical Mission	23	5,537
Notting Hill Provident	13	5,170
Paddington ,,	32	7,174
Public	36	5,140
Queen Adelaide's	29	17,251
Royal General	23	8,842
Royal Pimlico Provident	41	34,838
Royal South London	47	13,376
St. George's and St. James's	47	—
St. George's (Hanover-square) Provident	28	2,484
St. John's Wood Provident	46	25,040
St. Marylebone General	48	12,441
St. Pancras and Northern	30	9,088
St. Pancras Medical Mission	20	5,684
South Lambeth, Stockwell, & North Brixton	37	9,664
Stamford Hill and Stoke Newington	56	39,677
Tower Hamlets	43	11,276
Walworth Provident	15	7,062
Wandsworth Common Provident	14	2,678
Westbourne Provident	17	10,632
Western	63	21,233
Western General	104	40,138
Westminster General	47	45,660
Whitechapel Provident	33	25,035
Woolwich ,,	24	—
	£2,209	976,208
Estimated to supply omissions	—	111,670
Total	£2,209	1,087,878

TABLE V.—NURSING ASSOCIATIONS.

Name of association.	Hospital Sunday Fund award.	Visits.
Aldgate Freedom	£5	—
Aldgate Lordship	5	—
Belvedere and Abbey Wood	5	4,482
Brixton	20	16,580
Central St. Pancras	15	9,858
Hackney	20	16,509
Hammersmith and Fulham	35	27,168
Hampstead	15	10,734
Kensington	40	27,552
Kilburn	15	8,384
Kingston	30	17,743
Metropolitan (Bloomsbury)	50	—
St. Olave's (Bermondsey)	30	27,023
Paddington and Marylebone	35	23,192
Plaistow	85	8,411
Rotherhithe	10	6,387
Shoreditch	55	42,520
South London (Battersea)	45	40,989
Tottenham	5	—
Southwark	30	19,932
South Wimbledon	15	—
Westminster	25	16,662
Woolwich, Plumstead, and Charlton	30	17,000
East London	150	104,500
North London	50	35,587
London District	360	218,100
	£1,180	699,413
Estimated to supply omissions	—	31,900
Total	£1,180	731,313

The Inducements to Give.

Do any hesitate to give on account of a feeling of ignorance as to the work in aid of which the Metropolitan Hospital Sunday Fund craves their alms? Or do any of those who would be willing to try to induce others to contribute lack arguments wherewith to enforce their recommendations? The strongest arguments, the most convincing proofs that could be supplied cannot be brought before all, for it is not possible that the millions who might contribute should visit the Hospitals and see for themselves what goes on within their wards. It would be very interesting, however, for them, and a pleasant task for those conducting them, if all these uninformed or indifferent ones, some of them leading lives of extravagance or of luxury, could be taken through the wards of one or two of our principal hospitals, and could be directed to pause from time to time beside a bed, and to ask a few questions of its occupant. The stories which they would hear would vary in their details, and in some instances the patients would be more free in their confidences than in others. The main outline would, however, be often the same—a life of hard work interrupted in the monotonous course of its routine by the onset of painful disease or by some serious occurrence; possibly an accident, perhaps a crime of violence committed by another. Some of the patients are wretchedly poor, some in possession of regular work are in fair circumstances while they can work, and some receive wages which, if treated thriftily, might enable them to receive private medical aid; but all are in the same plight, they cannot work because

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 30th, 1829.

INFLATION OF THE LUNGS OF INFANTS.

AT a late meeting of the French Institution, a case was communicated, in which a new-born infant was aroused from a state of asphyxia by the insufflation of air. A child, just born, was brought to M. Portal for the purposes of dissection; while preparing for this, some short time after receiving it, it occurred to him to blow for an instant into its mouth. In two or three minutes, heat returned, the circulation recommenced, the heart began to beat, and the supposed corpse was restored to the parents a lively infant. A similar circumstance is said to have once occurred to an anatomist at Lyons.

CLIMATE OF EGYPT.

Dr. PARISET, a French physician, who has been residing for several months in Egypt, for the purpose of making observations on the climate, gives it as his opinion, that the notion generally entertained of the insalubrity of that country is erroneously founded. He considers Egypt as, in reality, a very healthy country, and that the air is only vitiated in some parts by the absolute want of the most simple sanitary measures. The carcases of animals, for instance, are every where abandoned to putrefaction, even, indeed, in the *very centres of the most* populous towns. He states that he ascertained, during his residence at Assouan, that the plague is not endemical in Nubia, and that the disease so termed, is only a species of intermittent fever.

MEDICINE AND THE LAW.

Milk and the Farmer.

AT Enfield recently a case was heard in which a retail milk dealer was summoned by an inspector under the Sale of Food and Drugs Acts for selling to his assistant "new cow's milk" which contained 14 per cent. of added water. At the same time there was a summons also taken out by the inspector against the farmer who sold the milk to the retailer for supplying that which was not of the substance and quality demanded by the purchaser, and the two cases were taken together. A discussion arose as to whether the contract to supply "new cow's milk" to his customer was a warranty on the part of the farmer upon which the retailer might rely as a defence to the prosecution, and points in connexion with the procedure adopted were raised which, it was stated, would eventually be referred to the Divisional Court. The result of the hearing, however, so far as the magistrates were concerned, was that they dismissed the summons against the retailer on the evidence, holding that he had not been guilty of adding water to the milk and convicted the farmer of doing so. Another case was then heard against the farmer, in which the inspector had gone on another date to the railway station to which the farmer had consigned milk for the retailer already mentioned and had there taken samples from a churn with the result that these on analysis were shown to contain added water to the extent of 8 per cent. In this case also the bench convicted the farmer, ordering him to pay in each case a fine of 10*s.* with the costs, including the fee of the analyst. The bench called attention to the conduct of the farmer in sending milk by rail without sealing or locking the cans, an explanation of which was suggested by the inspector under the Sale of Food and Drugs Acts. His view was that farmers prefer to send their milk thus by rail without securing the lids of the churns, because if it is afterwards shown to have reached the consignee in a defective condition they can put forward the explanation that it has been tampered with in course of transit, a defence which obviously would not be open to them if they rendered such interference impossible. As the intervention of the inspector in the circumstances described was questioned on the part of the defence no more need be said with regard to a point which is purely a legal one. With regard to the locking of churns, it is obviously of importance to the public that milk should be liable to examination at any stage of its conveyance from the cow to the ultimate consumer at which adulteration can be detected and brought home to those responsible for it. The task of inspection and of protecting the public will, however, be simpler and more effective if during one of those stages—that is to say, during a journey by road or rail—theft and adulteration are rendered impossible. To send milk in a sealed or locked can can hardly be prejudicial to a farmer or to a milk dealer, and it is not usual with regard to other goods to intrust them to carriers without some corresponding precaution.

The Case of George Edalji.

It was inevitable that the Home Secretary's decision in this case should be regarded as a compromise with justice, and Mr. Gladstone must have felt very sure of his ground indeed before, by withholding compensation to a man who had been admittedly punished in error, he exposed his department to further public censure. Our distinguished *confrère*, Sir Arthur Conan Doyle, who has throughout been one of Mr. Edalji's most stalwart champions, is now vigorously combating the assumption that Mr. Edalji wrote the various anonymous letters used at his trial, and to the ordinary mind his arguments are very convincing.

ASYLUM REPORTS.

Barnwood House, Gloucester (Hospital for the Insane) (Forty-seventh Annual Report, 1906).—The number of patients treated in the hospital during 1906 averaged 147 (55 males and 92 females). There were 44 patients (14 males and 30 females) admitted during the year 1906, this being the highest admission rate for the last 30 years. Dr. J. G. Soutar draws attention to the unfavourable nature, from the recovery standpoint, of the maladies from which the male patients usually suffer. For example, in the year under review, only one of the male admissions showed any prospect of recovery. He goes on to say that he has found in recent years "that insanity among the male patients from 40 years of age upwards has, in an increasing number of cases, been associated with ascertainable arterial degeneration. These early 'senile changes' are still comparatively rare amongst the women. In the case of most of the men alcohol or syphilis may be excluded as a condition precedent to the arterial changes, but we find them amongst those who have struggled and striven often successfully and with little relaxation in arduous mental work. In other cases it would seem as if excessive devotion to athletic exercises, carried on beyond the elastic years of youth, led, in those predisposed, to old age arteries in middle-aged men." As to the causation, the medical superintendent reports that a hereditary tendency to mental and allied nervous troubles was ascertained in 47·7 per cent. of the admissions. 30 persons (11 males and 19 females) were discharged during 1906 and of these only 12 (four males and eight females) had recovered. Two female patients were discharged relieved and of the other discharges seven males and nine females left uncured. Six males and two females died during the year, all from natural causes. Thus the recovery rate is only 27·2 per cent. on the admissions, which is low compared with the average recovery rate of the past five years, which is 45·2 per cent. Dr. Soutar accounts for this decrease in the recovery rate in that during recent years there has been a marked falling-off in applications for the admission of acute cases. If this is the case it is to be deplored, considering the high position that this hospital holds and the fact that much charitable work is done by it, for "the committee of the hospital are always ready to receive persons from the educated classes suffering from recent mental disorder at low rates of payment. No case of this type is refused admission, but it is quite extraordinary how few applications are received. We have oftener than we like to fill our beds with chronic cases who can no longer pay the fees required elsewhere but can still easily afford to pay us at remunerative rates. Many of these patients are intelligent and interesting members of our community, they offer points for study and consideration, and in various ways much can be done for them, but they cannot be cured. We reluctantly accept them in lieu of acute cases, for the accommodation of whom there has recently been so little demand." Four patients have been maintained gratuitously and 60 others below the average cost of maintenance. The committee states that the sum of £4833 was invested in the purchase of £5500 stock as an addition to the Pension Fund which is now represented by £36,094 in consols.

the reception of others worse off than they are. We hope for their sakes that they will never need the aid afforded; but if ever they chance to do so their gifts should thereafter take the form of thankofferings. But though all can help according to their means, in the main the Hospitals must always be the gift of the richer to the poorer, bestowed by the class which cannot expect to benefit directly from its generosity upon those who without that generosity must suffer unhealed and perhaps die. We have used the word "directly," because indirectly every man who calls in medical or surgical aid benefits from the training which his medical attendant has obtained from the Hospitals and which could have been imparted to him nowhere else. We do not forget, also, that the rich man may find himself the inmate of a Hospital at any time when some sudden emergency arises calling for his reception. He may, for example, be the victim of an accident in the streets, and then he will be benefited directly by an institution to the upkeep of which he may have contributed. What would be the feelings of one who on such an occasion found himself tended and brought back to life without ever having done anything to make the hospitals efficient? What would be his position after receiving that aid which can be given promptly and surely in Hospitals only? He would, indeed, feel himself the recipient of charity not intended for him, but bestowed upon him with the same freedom as upon others. He might be one of those who at times criticise unfavourably the never-ceasing appeal for pecuniary aid to our medical charities—such appeals, for example, as we are urging now on behalf of the Metropolitan Hospital Sunday Fund. He would not when lying in the Hospital ward complain because the latest, the best, and perhaps the most costly appliances of science had, in hands skilled to use them, warded off death. He would hardly then grudge to the poor men lying around him that measure of comfort which the Hospital allowed him to share with them.

Nevertheless, although we may glance at such possibilities as these, we do not ask those whose circumstances allow them to give to be generous simply because they may some day profit themselves thereby, either directly or indirectly. That would not be generosity at all; it would be a payment made after calculating the prospect of obtaining advantage from it. The real claim must be upon the charity of the giver; the true appeal must be to his heart, not to his head. It is to the poor that he gives, because they are poor, and because when struck down by injury or by disease they are helpless so far as their own resources are concerned, and he must give without hope of reward, save in the consciousness of his good action. In giving to the Fund, moreover, he knows that his charity will be distributed with justice and economy, so as to insure the best possible results, for, as we have said above, and now repeat, the Metropolitan Hospital Sunday Fund represents order in the distribution of charity.

THEREFORE GIVE.

The appeal is to all; therefore give. The rich should give out of their superfluity, and not only because they are rich, but because they are themselves benefited by the Hospitals. The poor should give out of their scanty means, relying upon their numbers for their influence. The shilling of the individual poor man, however steadily contributed, can never repay the Hospital for the expense that is incurred if he becomes an inmate; but out of London's 7,000,000 inhabitants there must be a third who could pay an annual shilling regularly to the Fund, and the income represented by such a subscription would restore all the Hospitals to solvency. To the benevolent man no scheme should make a surer appeal; to the practical man it must appear as a vast economic agency.

WE ALL SHOULD GIVE.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

Receipts and payments for the year ending October 31st, 1906.

Dr. 1906.		£ s. d.	£ s. d.
To Balance at Bank of England, 1st Nov., 1905		3,105 17 2	
,, Balance in hands of Secretary		19 13 11	
			3,125 11 1
,, Collections made at Sundry Places of Worship		44,633 13 2	
,, Collections at Schools		45 14 6	
,, Donations—City Appeal		1,676 0 8	
,, Donations		12,226 3 5	
,, Dividend on £224 15s. 2d. Consols		5 7 0	
,, One year's interest on Legacy of £10,000 from the late Herbert Lloyd		272 6 7	
,, Dividend on £45,346 1s. 3d. 2½ Consols, per Executors to the Will of W. A. Guesdon, deceased		1,133 13 0	
,, Interest on Deposit		109 5 1	
,, Legacies—			
Herbert Lloyd, Esq., first instalment of legacy of £10,000	£3,000 0 0		
Mr. William Birt	73 8 9		
		3,073 8 9	
			63,075 12 2
			£66,201 3 3

1906.	£ s. d.	Cr. £ s. d.
By Awards to 148 Hospitals	52,658 3 11	
,, Awards to 14 Institutions	1,366 18 7	
,, Awards to 61 Dispensaries	2,208 10 0	
,, Awards to 26 Nursing Associations... ...	1,180 0 0	
,, Surgical Appliances	4,009 19 9	
		61,423 12 3
,, Rent and Telephone	223 3 4	
,, Insurance	0 7 6	
,, Furniture and Repairs	8 4 3	
,, Fuel, Lighting, and Office Cleaning ...	34 9 10	
,, Printing and Stationery	286 18 8	
,, Stamps and Postages	142 15 11	
,, Advertisements	163 5 7	
,, Salaries and Gratuities (including payment in advance)	1,400 8 8	
,, Pension to late Secretary	250 0 0	
,, Special Appeal...	1,134 5 8	
,, Sundries	8 7 8	
		3,652 7 1
,, Balance at Bank of England, 31st Oct., 1906...	1,100 10 3	
,, Petty Cash	24 13 8	
		1,125 3 11
		£66,201 3 3

Audited and found correct, this 24th day of November, 1906.
(Signed) W. H. PANNELL & Co., *Chartered Accountants*, 13, Basinghall-street, E.C.

*** *In the preparation of the voluminous statistics of hospital work which have been here digested and exhibited in collected form (and which have been specially supplied to us in response to our applications, and are quite independent of any returns made to the Metropolitan Hospital Sunday Fund Committee), we have been greatly indebted to a large number of secretaries and other officers of the various medical charities of the metropolis. To them we desire, as on many previous occasions, to tender our sincere thanks.*—Ed. L.

Printed and Published by the Registered Proprietors of The Lancet, at 423, Strand, W.C., and Nos. 1 and 2, Bedford-street, Strand, adjoining.

VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force:—

Northern Command: Rifle: 5th Volunteer Battalion the Durham Light Infantry: Surgeon-Major Andrew Arthur Abraham.

Scottish Command: Artillery: 1st Fifeshire Royal Garrison Artillery (Volunteers): Surgeon-Major Robert Balfour Graham. *Rifle:* 5th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant-Colonel James Mill.

THE ROYAL NAVAL HOSPITAL, STONEHOUSE, PLYMOUTH.

Inspector-General H. Mackay Ellis, Director-General of the Royal Navy Medical Service, made his annual inspection of the Royal Naval Hospital, Stonehouse, on May 21st and 22nd. After the inspection of the medical and surgical wards he expressed his satisfaction with the result of the visit. The Director-General was accompanied by Inspector-General H. T. Cox, R.N., and the heads of departments.

Correspondence.

"Audi alteram partem."

MELÆNA NEONATORUM.

To the Editors of THE LANCET.

SIRS,—In your annotation on the above subject in THE LANCET of May 25th, p. 1443, it is suggested that melæna neonatorum may "be one of the many pathological conditions produced by the virus of congenital syphilis." This statement is supported by the authority of Dr. Balzer of the St. Louis Hospital, Paris, who states in his article on Syphilis in Brouardel and Gilbert's "Traité de Médecine," 1906, that some newly born children succumb to intestinal hæmorrhage associated with purpura, a condition known as "syphilis hæmorrhagica neonatorum." Dr. Still in his lectures on "Infantile Syphilis" also refers to this condition. Whether melæna neonatorum is always due to congenital syphilis may be open to dispute, but this diathesis is probably responsible for most cases.

I am, Sirs, yours faithfully,

New Cavendish-street, W., May 26th, 1907. C. F. MARSHALL.

CONVALESCENT HOME OF ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

To the Editors of THE LANCET.

SIRS,—May we ask you for space to appeal to Cambridge men and their friends for help in providing Addenbrooke's Hospital with a seaside branch for convalescents, such as is now felt to be a necessary equipment for every great hospital? These seaside branches are quite distinct from the ordinary convalescent home to which admission may be obtained through subscribers' letters for people needing merely rest and change of air. They are intended precisely for those whom such homes must of necessity exclude—viz., those who still need surgical care and dressings, including men, women, and children from three years old. The patients are nominated by the hospital staff and have all been under treatment at the hospital. There are thus no trivial cases. The removal of these patients at the earliest possible moment after operations or other severe illness gives much needed relief to the hospital wards, while the bright seaside and open-air life completes the work of restoration as nothing else could.

In response to an appeal made eight years ago by the medical and surgical staff of Addenbrooke's Hospital for such a branch the work was begun in a hired house by the seaside. The generosity of a few friends provided funds enough to try the experiment for some years and its success has been even beyond their hopes. But these funds are now exhausted; the lease of the temporary home at Dovercourt has come to an end; the committee has decided to build (no house not planned for this object being really suitable) and has secured an admirable site at Hunstanton. All that is now needed is £3000, towards which £600 have already been given or promised. Donations will be gratefully received at Barclay's Bank, Cambridge.

We are, Sirs, yours faithfully,

L. DE BUNSEN,
Honorary Treasurer of the Home;
DONALD MACALISTER,
Consulting Physician to Addenbrooke's Hospital.

Cambridge, May 18th, 1907.

SANITARY AUTHORITIES AND SANITARY OFFICERS.

To the Editors of THE LANCET.

SIRS,—Dr. J. H. Garrett, in his most excellent criticism on the administration of the Public Health Acts which appeared in THE LANCET of May 25th, p. 1447, has omitted to draw attention to what one may term the crowning absurdity of the law with regard to the appointment of medical officers of health. Dr. Garrett states that the law requires the medical officer of health to be a "registered medical practitioner *invariably.*" This is not strictly correct. The Local Government Act, 1888, requires that he shall be legally qualified to practise medicine, surgery, and midwifery, but by the same Act authority is specially given to the Local Government Board to modify this requirement—that is to say, the Local Government Board has power to sanction the appointment of a "quack." I am, Sirs, yours faithfully,

R. BRUCE FERGUSON, M.D. Cantab., D.P.H., &c.

London, N., May 27th, 1907.

ALBUMINOUS BODIES PRESENT IN PATHOLOGICAL EFFUSIONS.

To the Editors of THE LANCET.

SIRS,—Many thanks are due to Dr. W. C. Bosanquet's note on the above subject. I have been studying exudates and transudates from the same point of view during the past twelvemonth, but have adopted the plan of rendering the globulin precipitates free from salt by dialysis. I have supposed that globulin plus ammonium sulphate will keep unaltered for a long time and if that were the case this method would be devoid of the error against which we are warned. If the fluid to be examined be treated with the salt at once (as is possible in a hospital) need one fear any subsequent conversion of one globulin into another? These methods of analysis are naturally of no use clinically because it is a matter of days before the result is obtained, but as a subject of scientific research may we not still hope that the relative proportions of albumins, globulins, and the decomposition-products of proteids in these fluids are of profound interest?

I am, Sirs, yours faithfully,

OSKAR C. GRUNER, M.B. Lond.

Clinical Laboratory, Leeds General Infirmary, May 21st, 1907.

A SOCIETY FOR THE PREVENTION OF VENEREAL DISEASE.

To the Editors of THE LANCET.

SIRS,—Some years ago the medical profession in Germany formed a Society for the Prevention of Venereal Disease and last month was held the first meeting of a similar society for Austria. Is it not possible to do something of the same sort in Great Britain? Perhaps some of our leading medical men might make a start in the matter, as everything has to have a small beginning, and the three societies might work together in harmony and find some coöperation possible.

I am, Sirs, yours faithfully,

May 27th, 1907. H. N. R.

TRAINED NURSES ANNUITY FUND.—A drawing-room meeting will be held, by permission of Lord and Lady Ravensworth, at 71, Eaton-square, S.W., on Friday, June 14th, at 3.45 P.M., in furtherance of the objects of the annuity fund for disabled nurses. The Earl of Hardwicke will take the chair and the meeting will be addressed by Lord Loch, Lady Henry Somerset, and Dr. F. H. Champneys. Further information can be obtained from the honorary secretary, Dr. A. Ogier Ward, 73, Cheapside, London, E.C.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7471 births and 4578 deaths were registered during the week ending May 25th. The annual rate of mortality, which had been equal to 15·9, 15·7, and 15·1 per 1000 in the three preceding weeks, further declined to 14·9 in the week under notice. During the first eight weeks of the current quarter the death-rate in these towns averaged 16·2 per 1000, the rate during the same period in London being 15·8. The lowest annual death-rates in the 76 towns during the week were 7·5 in Hornsey, 7·8 in Smethwick, 8·1 in Tottenham, 8·7 in Willesden, and 8·8 in East Ham; the rates in the other towns ranged upwards to 20·1 in Stockport, 22·7 in Sunderland, 23·9 in Oldham, and 24·8 in Hanley. The 4578 deaths in the 76 towns showed a decrease of 52 from the number in the preceding weeks, and included 474 which were referred to the principal epidemic diseases, against 493 and 607 in the two previous weeks; of these, 207 resulted from measles, 116 from whooping-cough, 51 from diarrhœa, 46 from diphtheria, 35 from scarlet fever, 18 from "fever" (principally enteric), and one from small-pox. The deaths from these principal epidemic diseases were equal to an annual rate of 1·5 per 1000, the rate from the same diseases in London being 1·4. No death from any of these epidemic diseases was registered last week in Plymouth, Halifax, Stockport, Devonport, or in six other of the 76 towns; the annual death rates therefrom, however, ranged upwards to 3·3 in Portsmouth and in Walsall, 4·1 in Middlesbrough, 5·0 in Derby, 6·8 in Bolton, and 7·0 in Hanley. The 207 fatal cases of measles showed a slight decline from the high numbers in recent weeks; the highest death rates from this cause were 2·1 in Derby, 2·6 in Middlesbrough, 2·7 in Bury, 2·8 in Nottingham, 5·1 in Bolton, and 7·0 in Hanley. The deaths from whooping-cough, which had been 176, 163, and 144 in the three preceding weeks, further fell last week to 116, and caused death-rates ranging upwards to 1·1 in St. Helens and in Swansea, 1·2 in Hornsey, 1·3 in Norwich, and 1·8 in Preston. The fatal cases of diphtheria, which had declined from 59 to 41 in the three preceding weeks, rose again to 46 last week, and included five deaths, equal to an annual rate of 2·1 in Derby. Of the 35 deaths from scarlet fever 13 occurred in London and three each in West Ham, Leicester, Liverpool, and Manchester. One fatal case of small-pox was registered in Cardiff, but none in any other of the 76 towns; and no small-pox patients were under treatment at the end of the week in the Metropolitan Asylums Hospitals. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2672, 2658, and 2679 at the end of the three preceding weeks, had further risen to 2732 at the end of the week under notice; 382 new cases were admitted during the week, against 348, 349, and 363 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 282, 262, and 235 in the three preceding weeks, further decreased to 230 last week, but were 17 in excess of the corrected average in the corresponding week of the previous five years. The causes of 46, or 1·0 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, West Ham, Newcastle-on-Tyne, Hull, Nottingham, Salford, and in 49 other of the 76 towns; the proportion of uncertified deaths, however, again showed a marked excess in Liverpool, Birmingham, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 19·3 and 19·7 per 1000 in the two preceding weeks, declined again to 17·5 in the week ending May 25th, but exceeded the rate in the 76 English towns by 2·6. The rates in the eight Scotch towns ranged from 12·9 in Paisley and 13·4 in Aberdeen to 19·8 in Greenock and 21·0 in Perth. The 607 deaths in the eight towns showed a decrease of 78 from the number in the previous week, and included 92 which were referred to the principal epidemic diseases, against 106, 110, and 112 in the three preceding weeks. These 92 deaths were equal to an annual rate of 2 6 per 1000, which exceeded by 1·1 the rate from the same diseases in the 76 English towns; they included 39 which were referred to whooping-cough, 28 to "fever," nine to measles, nine to diarrhœa, four to diphtheria, and three to scarlet fever, but not any to small-pox. The deaths referred to whooping-cough, which had been 40 and 52 in the two preceding weeks, declined again last week to 39, of which 33 occurred in Glasgow, two in Edinburgh, two in Dundee, and two in Paisley. The 28 fatal cases of "fever," all of which were attributed to cerebro-spinal meningitis, showed a decrease of 13 from the number in the preceding week, and included 19 in Glasgow, five in Leith, and two in Dundee. The deaths from measles, which had been 12 and eight in the two preceding weeks, rose again last week to nine, of which four were registered in Glasgow and four in Edinburgh. The nine fatal cases of diarrhœa included five in Dundee and three in Glasgow; the fours deaths from diphtheria occurred in Edinburgh; and two of the three deaths from scarlet fever in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 107 in each of the two preceding weeks, decreased to 83 in the week under notice, and were 13 below the number in the corresponding week of last year. The causes of 15, or 2·5 per cent., of the deaths registered in the eight towns during the week were not certified or not stated; the proportion of uncertified deaths in the 76 English towns during the same week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 24·0 and 26·7 per 1000 in the two preceding weeks, declined again to 25·8 in the week ending May 25th. During the first eight weeks of the current quarter the death-rate has averaged 27·3 per 1000; the mean rate during the same period did not exceed 15·8 in London and 17·7 in Edinburgh. The 193 deaths of Dublin residents registered during the week under notice showed a decline of seven from the number returned in the previous week, and included 17 which were referred to the principal epidemic diseases, against numbers decreasing from 29 to seven in the four preceding weeks; of these, 10 resulted from whooping-cough, six from measles, and one from "fever." These 17 deaths were equal to an annual rate of 2·3 per 1000, the rate during the same week from the principal epidemic diseases being 1·4 in London and 1·8 in Edinburgh. The fatal cases of whooping-cough, which had declined from 15 to four in the four preceding weeks, rose again to ten last week; while the deaths from measles, which had been three, six, and one in the three previous weeks, again increased to six. The 193 deaths from all causes included 29 of children under one year and 45 of persons aged upwards of 60 years, each of these numbers showing a decline from those returned in the previous week. Six inquest cases and four deaths from violence were registered; and 98, or more than one-half of the deaths, occurred in public institutions. The causes of three, or 1·5 per cent., of the deaths in Dublin last week were not certified; the percentage of uncertified deaths during the week did not exceed 0·2 in London, while it was 3·7 in Edinburgh. The 164 deaths registered in Belfast during the week under notice included 20 which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon: J. C. Fergusson to the *Ariadne* on recommissioning; Staff Surgeon: S. T. Reid to the *Antrim* on recommissioning; Surgeons: W. H. Hastings to the *Antrim*, and A. R. Thomas to the *Ariadne* on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Major David Stiell retires on retired pay (dated May 25th, 1907).

Lieutenant-Colonel James S. Green is placed on temporary half-pay on account of ill-health (dated May 22nd, 1907).

Captain A. O. Duffey has been appointed to the Dublin District. Major T. B. Beach has been appointed Medical Officer, Royal Arsenal, Woolwich.

VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force :—

Northern Command: Rifle: 5th Volunteer Battalion the Durham Light Infantry: Surgeon-Major Andrew Arthur Abraham.

Scottish Command: Artillery: 1st Fifeshire Royal Garrison Artillery (Volunteers): Surgeon-Major Robert Balfour Graham. *Rifle:* 5th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant-Colonel James Mill.

THE ROYAL NAVAL HOSPITAL, STONEHOUSE, PLYMOUTH.

Inspector-General H. Mackay Ellis, Director-General of the Royal Navy Medical Service, made his annual inspection of the Royal Naval Hospital, Stonehouse, on May 21st and 22nd. After the inspection of the medical and surgical wards he expressed his satisfaction with the result of the visit. The Director-General was accompanied by Inspector-General H. T. Cox, R.N., and the heads of departments.

Correspondence.

"Audi alteram partem."

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To the Editors of THE LANCET.

SIRS,—May we ask you for space to appeal to Cambridge men and their friends for help in providing Addenbrooke's Hospital with a seaside branch for convalescents, such as is now felt to be a necessary equipment for every great hospital? These seaside branches are quite distinct from the ordinary convalescent home to which admission may be obtained through subscribers' letters for people needing merely rest and change of air. They are intended precisely for those whom such homes must of necessity exclude—viz., those who still need surgical care and dressings, including men, women, and children from three years old. The patients are nominated by the hospital staff and have all been under treatment at the hospital. There are thus no trivial cases. The removal of these patients at the earliest possible moment after operations or other severe illness gives much needed relief to the hospital wards, while the bright seaside and open-air life completes the work of restoration as nothing else could.

In response to an appeal made eight years ago by the medical and surgical staff of Addenbrooke's Hospital for such a branch the work was begun in a hired house by the seaside. The generosity of a few friends provided funds enough to try the experiment for some years and its success has been even beyond their hopes. But these funds are now exhausted; the lease of the temporary home at Dovercourt has come to an end; the committee has decided to build (no house not planned for this object being really suitable) and has secured an admirable site at Hunstanton. All that is now needed is £3000, towards which £600 have already been given or promised. Donations will be gratefully received at Barclay's Bank, Cambridge.

We are, Sirs, yours faithfully,
L. DE BUNSEN,
Honorary Treasurer of the Home;
DONALD MACALISTER.
Consulting Physician to Addenbrooke's Hospital.

Cambridge, May 18th, 1907.

SANITARY AUTHORITIES AND SANITARY OFFICERS.

To the Editors of THE LANCET.

SIRS,—Dr. J. H. Garrett, in his most excellent criticism on the administration of the Public Health Acts which appeared in THE LANCET of May 25th, p. 1447, has omitted to draw attention to what one may term the crowning absurdity of the law with regard to the appointment of medical officers of health. Dr. Garrett states that the law requires the medical officer of health to be a "registered medical practitioner *invariably*." This is not strictly correct. The Local Government Act, 1888, requires that he shall be legally qualified to practise medicine, surgery, and midwifery, but by the same Act authority is specially given to the Local Government Board to modify this requirement—that is to say, the Local Government Board has power to sanction the appointment of a "quack."

I am, Sirs, yours faithfully,
R. BRUCE FERGUSON, M.D. Cantab., D.P.H., &c.

London, N., May 27th, 1907.

ALBUMINOUS BODIES PRESENT IN PATHOLOGICAL EFFUSIONS.

To the Editors of THE LANCET.

SIRS,—Many thanks are due to Dr. W. O. Bosanquet's note on the above subject. I have been studying exudates and transudates from the same point of view during the past twelvemonth, but have adopted the plan of rendering the globulin precipitates free from salt by dialysis. I have supposed that globulin plus ammonium sulphate will keep unaltered for a long time and if that were the case this method would be devoid of the error against which we are warned. If the fluid to be examined be treated with the salt at once (as is possible in a hospital) need one fear any subsequent conversion of one globulin into another? These methods of analysis are naturally of no use clinically because it is a matter of days before the result is obtained, but as a subject of scientific research may we not still hope that the relative proportions of albumins, globulins, and the decomposition-products of proteids in these fluids are of profound interest?

I am, Sirs, yours faithfully,
OSKAR C. GRUNER, M.B Lond.

Clinical Laboratory, Leeds General Infirmary, May 21st, 1907.

A SOCIETY FOR THE PREVENTION OF VENEREAL DISEASE.

To the Editors of THE LANCET.

SIRS,—Some years ago the medical profession in Germany formed a Society for the Prevention of Venereal Disease and last month was held the first meeting of a similar society for Austria. Is it not possible to do something of the same sort in Great Britain? Perhaps some of our leading medical men might make a start in the matter, as everything has to have a small beginning, and the three societies might work together in harmony and find some coöperation possible.

I am, Sirs, yours faithfully,

May 27th, 1907. H. N. R.

TRAINED NURSES ANNUITY FUND.—A drawing-room meeting will be held, by permission of Lord and Lady Ravensworth, at 71, Eaton-square, S.W., on Friday, June 14th, at 3.45 P.M., in furtherance of the objects of the annuity fund for disabled nurses. The Earl of Hardwicke will take the chair and the meeting will be addressed by Lord Loch, Lady Henry Somerset, and Dr. F. H. Champneys. Further information can be obtained from the honorary secretary, Dr. A. Ogier Ward, 73, Cheapside, London, E.C.

THE BATTLE OF THE CLUBS.

THE STRUGGLE AGAINST THE COVENTRY DISPENSARY.

(FROM OUR SPECIAL COMMISSIONER.)

(Continued from p. 1458.)

Coventry, May 27th.

THE dispute in regard to the Coventry Dispensary is a somewhat dramatic illustration of the inextricable tangle into which contract work has fallen. *As for the cause of the* embarrassment, it is easier to define than to remedy. It can be expressed in one word—commercialism. The practice of medicine has always been described as a professional pursuit. Money-making is therefore not the object, though it is a necessary corollary. In spite of the fact that modern economic developments have greatly reduced the rate of interest and menace the small capitalists, still the aspirations, the principles, and the etiquette governing the medical profession remain what they used to be. Indeed, the formation of medical unions throughout the length and breadth of the land will tend to strengthen and to enforce more strictly the ethical code by which the dignity of the profession is to be maintained. It is probable that if the sum total of capital necessary for a medical education together with an equal amount of work and ability were devoted to a trade or industry, the profit in hard cash made would, as a rule, far exceed that received in the form of fees for medical attendance. Therefore, if money is the primary object, trade, commerce, and industry suggest themselves and not the medical profession. To make this quite clear, the profession condemns as infamous, in the professional sense, practices which are quite legitimate in trade and commerce. As the desire to relieve suffering and to study science are the primary objects of the medical profession, its members have always been willing to do a great deal of gratuitous work. Such gratuitous work, notably that performed by the staff of the various hospitals, provides the means to relieve much suffering and to acquire great experience in the pursuit of scientific clinical study. Unfortunately, an unfair advantage has been taken of this somewhat altruistic and chivalrous attitude of the medical profession. This has reacted upon not a few medical men themselves and caused them, in a measure, to abandon their own higher standard of ethics. Thus a vicious circle has been created, those who were sinned against becoming in their turn sinners.

This situation *forced itself* more prominently than usual to my notice when I read carefully the defence made by the authorised representatives of the Coventry Provident Dispensary. This is set out at great length in the *Coventry Herald* of March 22nd last. A meeting of members of the dispensary is described which was presided over by Mr. A. Keene, chairman of the dispensary committee. In his opening *remarks* the chairman is reported to have said that "the all-important question is whether those who find the money shall rule or whether the medical staff shall likewise have a control of the management." The attitude of the members fully confirmed the chairman's assumption that they and not the medical officers found the money. Here, of course, is the fundamental error, the belief that because the members of the dispensary pay 3*s.* or 4*s.*, or at most 1*d.* per week, which makes 4*s.* 4*d.* a year, therefore the medical officers are fully paid for their services. The fatal mistake on the part of the medical profession is that they have not insisted throughout on the charitable nature of the work which they were doing. This argument applies, unfortunately, not only to Coventry but to the greater part of club practice or contract work throughout the country.

The origin of such dispensaries, sick clubs, &c., *must* always be borne in mind. If it had never been forgotten, the cause for the present protracted battle of the clubs would not have arisen. At the commencement of the last century medical men gave their services gratuitously at the hospitals and also to a large number of poor people who rarely, if ever, were able to pay. Then in the "forties" a great humanitarian spirit of reform swept over Europe and all kinds of organisations were set on foot for the benefit of the poor. The Coventry Dispensary was a pioneer in this effort, for it was first started in 1832. Its original character as a charitable institution I have already fully described, quoting notably a resolution which was carried on July 29th, 1829, in St. Mary's Hall, Coventry, and which was to the following effect:—

> 1. That this meeting of the medical men of Coventry regrets, after a full consideration of the subject, that they cannot approve of the establishment of a self-supporting dispensary in this city, the principles of which they think are not adapted to the locality of Coventry. 2. That this meeting would most cordially coöperate with their fellow citizens in establishing a charitable dispensary upon the usual terms of such institutions.

Even at this early date the members of the profession foresaw the danger of what was called a self-supporting institution. It was the opposition of the medical men that caused some three years or more to elapse before the dispensary could be established; and though often stated to be self-supporting it has remained throughout a charity. All attainable statistics clearly demonstrate this to be the case. In April, 1893, a great meeting of the members of the Coventry Dispensary was held and the mayor, who was in the chair, boasted that the dispensary had in hand a balance of from £5000 to £6000. This money had been bequeathed to the "Benevolent and Provident Dispensary." Surely such bequests cannot be considered in any other light than as charitable donations, they were not investments. In those days the dispensary did not fear to publish statistics, and speaking of the abuse of the institution by rich men a prominent member, Mr. J. Bill, who at one time was chairman of the institution, said it was absurd to urge that a man who "could pay 5*s.* or 2*s.* 6*d.* but chose to pay only 2*d.* or 3*d.* for a doctor's visit was a man of honour." Here, then, we have on the highest authority *and from the dispensary* side a statement given when the figures were published that the medical officers of the dispensary only received 2*d.* or 3*d.* for each patient whom they saw. Surely this is charity, not in cash certainly, but in kind.

To-day the figures, the statistics, are carefully concealed. The dispensary management is so well aware it is in *the wrong that it* dare not publish a record of what it does. It no longer issues the annual report that it was in the habit of publishing; indeed, the dispensary even pretends that it does not know how many members it possesses. Though it collects the weekly pennies or the annual subscriptions, yet it cannot say how many members are paying. When the population of Coventry was less than 60,000 the dispensary boasted of 26,000 members. Now that the population is estimated at *87,000 the dispensary pretends* that it has less than 20,000 members. The managers publish details as to the payments made to their medical officers but they will not state the number of consultations given in exchange for these sums or the extent of the population placed under the charge of the medical officers. The latter do not themselves know. Perhaps for the *purpose* of keeping the medical officers and the public in ignorance of the true state of affairs, a different system of payment has been introduced. As a rule a medical officer of a club or dispensary has inscribed in his book the names of all the members who have selected him for their attendant should they require medical aid. The medical officer is paid in proportion to the number of *members* on his book. If it is a healthy and young population the work is comparatively slight, though *often the conditions* are not so favourable. At Coventry the medical officers have no such books. They are paid by result and not by membership. Every weekday morning and on one evening—that is in all seven times per week—the medical officers go to the dispensary building and there receive all members who choose to ask their advice. It is like the out-patients' ward at a general hospital. There is a bookkeeper and he enters to the credit of each medical officer the patient by whom he is selected. This account is made every six months. At the end of six months if a patient continues his visits he is entered as a new patient but he can call as often as he chooses during the six months. Thus Dr. T. A. Hird, who has the largest number of dispensary patients, said he expected to find some 4000 entries made for the last six months of his services. *That is to say,* he will have given advice to 4000 different persons during the six months, seeing some of them only once and others several times according to the nature of their complaints. As he receives about a third of the total amount paid to the medical officers the population that looked to him in case of sickness probably have numbered from *6000 to 8000* persons.

Though official figures are not attainable an approximate estimate amply suffices for all practical purposes. In this respect I have fortunately been able to obtain from the best-informed source the statement that the more popular members of the staff may have to see at the *dispensary* from 60 to 130 patients, and in addition have *to visit* about 30 at their own homes. This may mean therefore *160* visits and consultations per day. However such figures are interpreted they show the unsatisfactory state of affairs. For instance, I will make a fancy calculation and so as to avoid the accusation of overestimating the grievance I will take as a basis not 160 but only 100 visits and consultations per day and only 310 days of such work per annum. This makes 31,000 visits and consultations. Suppose we accept as the lowest minimum fee 1*s.* 6*d.* a consultation and 2*s.* 6*d.* a visit at the patient's own house, but as the dispensary medical officers do not provide the medicine I will set down the visits at the same fee as the consultations. The medical officer who sees on an average 100 patients per day for 310 days in the year should, at the rate of the minimum fee of 1*s.* 6*d.*, receive £2325. The highest sum ever paid to any one medical officer at Coventry was, according to the printed statement, £843 15*s.* 4*d.* for the year 1906. From the above figures, and to judge from all appearances, the probability is that this payment, though large, represents less than 6*d.* per visit or consultation. If the dispensary was a self-supporting institution where it actually pays a little more than £800 it should pay a great deal more than £2000.

There is, however, the other side of the question. If a medical practitioner received what is recognised as a full and proper fee, even though this be but the minimum fee, then the patient may expect the best treatment that it is in the power of his medical attendant to give. The ideal would be that when once at work the question of fees should not enter the practitioner's mind. It should never occur to him to say, "This is only a club patient, I cannot afford the time to examine him thoroughly." How long a consultation should last on an average has never been clearly defined, though there is a tradition about the professional quarter of an hour. Certainly this might be cut down without injury, and in dealing with a poorer class of patient the practitioner might be allowed to come to the point at once without loss of time over preliminary politeness. Therefore, and for the sake of argument, perhaps I may venture to suggest an average of ten minutes per patient. If in this is included the time taken in going to the different houses of those patients who cannot come and wait their turn at the dispensary or the surgery ten minutes per patient is a short allowance. But if this basis be accepted then in order to see 100 patients in a day the medical officer would have to devote 16 hours and 40 minutes. Under these conditions the medical officer would then have 7 hours and 20 minutes remaining for his other and better paying patients, for study, for his relaxation and pleasure, for his meals, and last, but not least, for sleep. If, however, he had, as stated above, 160 patients to see he would require more than 26 hours; therefore it could not be done, even if he worked all day and all night without a moment's pause for any purpose whatsoever. These figures show how both sides, the dispensary and the medical staff, have drifted into a false position.

The great difficulty in discussing the matter is the absence of an official pronouncement as to what should constitute the minimum fee. From numerous conversations all over the country 1*s.* 6*d.* and 2*s.* 6*d.* seem to be considered the lowest fees likely to be accepted if a plébiscite of the profession could be taken. With this understanding and to facilitate calculations we might adopt as an average 2*s.* for visits and consultations when medicine is provided and 1*s.* 6*d.* when the medical officer does not give the medicine. On the other hand, the minimum fee should be not for the minimum of attendance but for the full measure of what is necessary and this I have very roughly estimated at an average of ten minutes per patient. The difference between the sum paid to the medical officer and the 1*s.* 6*d.* which he should receive ought to be credited to his account and considered as a free gift made by him to the institution. It would then very soon be evident that these dispensaries and similar institutions are not self-supporting. They are charitable institutions and far and away the largest amount of charity given has been contributed by the members of the medical staffs.

The case on the side of the medical officers would be very clear and very startling if unfortunately almost irresistible economic forces had not compelled them to retaliate. Both sides have been to blame, the medical officers because they did not insist on the charitable nature of the work which they were doing and the members because they too readily imagined that they were paying for the services of the medical men; just as if such service, if properly rendered, could possibly be paid for by subscribing a penny per week. Not only did many of these institutions conclude that they are fully paying their medical officers but they often assumed an over-bearing tone, as from a master to a dependent. One of the Coventry dispensary officers remarked that if he went to a shop and bought something he did not treat the shop-keeper as if he was an unruly servant. He considered his relations with a tradesman as those of mutual service, but it often happened that the members of the dispensary were not so courteous or so considerate. In course of time and meeting with but little gratitude, the tendency to make the best of a bad situation naturally arose. As the charitable element became obliterated so did the commercial instinct manifest itself even among the members of the profession. Thus the professional ten minutes gradually dwindled and the time allotted to the patients became more and more proportionate with the commercial value of the pennies which they paid. It was not because medical men were insufficiently paid—that was but a secondary consideration—but it was because the practice of medicine was being degraded by an infusion of a low class of commercialism that the battle of the clubs was commenced.

Among the early pioneers of this movement were the majority of the Coventry medical practitioners. How they denounced the Coventry Provident Dispensary and formed a Coventry Public Medical Service managed solely by members of the profession has been fully described in these columns and the progress made recorded from time to time. The dispensary constituted a huge monopoly, handing over a population of some 25,000 persons to five medical men who would thus have many thousand more people on their books than they could possibly attend to properly. Therefore, when the medical practitioners of the town set themselves to the task of organising a model medical service for those who were too poor to pay the usual fees, they declared that there should be no monopoly but that every recognised resident practitioner could join if he chose to do that sort of work. Then, and so as to prevent any practitioner undertaking more than he could properly accomplish, there was a self-denying ordinance limiting to 2000 the number of members whom any one medical officer could inscribe on his books. To prevent the abuse that was so largely prevalent at the dispensary a wage-limit of £1 10*s.* per week was imposed and no one was admitted as a member whose income exceeded this sum. The Public Medical Service has continued to prosper. Last year 2800 new members joined while 1840 lapsed, leaving a net increase of 960, which brings the total membership up to 12,572. The total amount of money collected was £2588; of this £581 were paid to the dispensing chemists, £305 to the collectors, and £1603 were divided between the ten medical officers who do the work of this institution. This is equal in round figures to 2*s.* 6*d.* net per annum and per member after the cost of management, of drugs, and of collecting has been paid. At this rate 2000 members would bring in a net income of £250 a year, and this is very generally considered quite as much club practice as any one practitioner should undertake if it is to be done properly and if sufficient time is left for practice among patients who can afford to pay the usual fees, for study, and for relaxation.

This self-denying ordinance, this limiting of club patients to 2000, is entirely in the interests of the public, and especially of the poor. Nothing can be more disastrous to the poor than that a medical practitioner should make the greater part of his income out of club practice. The calculations and figures given above show what this means, and, indeed, the poor themselves so well understand the question that the phrase "only a club doctor" is quite current among them. Therefore, when serious illness arises they endeavour to get money enough to consult a practitioner who is not a club doctor. It would be a great advantage to the sick poor if their club doctor derived the greater part of his income from patients who paid the full fees, for he would then be much better able to afford all the time necessary to take equally good care of his club patients. This also would better guarantee the dignity and honour of the profession, and hence the present struggle.

Unfortunately the members of the profession at Coventry have recently gone back upon some of their old and excellent resolutions. The spirit of compromise has been permeating their ranks, and for the sake of being practical they have forsworn some of their best principles. As a few practitioners in the neighbourhood had private clubs of their own with more than 2000 members, a resolution was carried raising the limit of members on any one practitioner's book to 3000. Then the other day, and in the hope that the five medical officers of the dispensary who have resigned would join, the self-denying ordinance was abolished altogether. Thus the rule which constitutes the chief claim of the Coventry Public Medical Service to the support and sympathy of the general public has been abolished. There would have been some excuse for this if by so doing the medical officers who have given up the dispensary could have been induced to join; but this they will not do. They are going to run private clubs of their own and they think that their patients will leave the dispensary to follow them. Apart from this question of the popularity of the individual medical men, the patients will enjoy some advantages which they did not have at the dispensary. The medical officers are making arrangements to receive their patients at their own private surgeries, so there will not be the same crowding that occurs at the dispensary building where all the staff receive the patients. Then, instead of being able to see a given medical officer in the evening only on one day per week, preparations to receive their patients during five evenings in the week as well as every morning have been made by the medical officers who have resigned. As obviously some members will not leave the dispensary the five medical officers who have resigned will lose some of their patients. Therefore they will give longer hours for consultation to fewer patients. There is no denying that this will be a great improvement from the point of view of medical science on the one hand and of the patients on the other. But such is the vicious tangle into which the system has become involved that this improvement will not be effected without imposing on the medical officers concerned a considerable financial loss. The best chance of recoupment is that there will be less abuse and that some of the well-to-do members of the dispensary will now pay the usual fees.

If the facts of the case can be made known to the public at large the dispensary will be abandoned or radically reformed. The three newly appointed and imported medical officers will find themselves in a difficult position. At Coventry and at Birmingham the profession is absolutely united against them and their ostracism will be thorough and effective. Though the dispensary officers who have resigned had drifted, as explained above, into a false position all criticisms in regard to the past are in abeyance. An absolutely united front is presented to the common enemy. All the practitioners of Coventry have promised not to accept as club patients any member of the dispensary, so that these members must follow the medical officers who resigned or remain in the dispensary. By this means it is hoped that the loss of the officers who resigned will not be so great. This self-denying ordinance will last for 12 months so far as individuals are concerned and for two years in regard to the clubs that are affiliated to the dispensary. It cannot be said, therefore, that the practitioners of Coventry have urged a rupture with the dispensary in the hope of picking up some crumbs. Of course the hospital staff will have nothing to do with the dispensary and its imported medical staff and the same may be said with regard to the *personnel* of the Birmingham hospitals. When it was necessary to remove a dispensary patient to a hospital the dispensary medical officers, being on personally friendly terms with the staffs of the Coventry and Birmingham hospitals, could telephone and make arrangements for their patients. This is not possible now, for no communications will be held with the new dispensary medical staff. The dispensary patients must themselves negotiate with the hospitals; their medical attendants, if they belong to the dispensary staff, cannot help them. Such is the nature of the fight which will begin next quarter day when the five medical officers who have resigned will leave the dispensary and the three imported medical officers will take their places.

THE GERMAN SURGICAL CONGRESS.[1]

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from p. 1382.)

Treatment of Fractures of the Femur.

Professor **BARDENHEUER** (Cologne) said that in the treatment of fractures of the femur the obtaining of results which were satisfactory from the anatomical point of view was the best security for the future serviceableness of the limb. It might be concluded from the position of the fragments in a recent fracture whether a displacement was likely to occur and whether this might be avoided by prophylactic measures. In fractures of the diaphysis where the angle opened inwards the flexure became greater in course of time when the femur was subjected to much weight before the completion of ossification. On this account after a certain period the limb became shorter than it was immediately after the end of the treatment. The deformity must therefore be remedied as well as possible in the anatomical sense and the patient should not be allowed to leave his bed before three months. The prognosis of displacement where the angle of the fracture opened outwards was better and the case was the same in displacements in the longitudinal direction where subsequent shortening of the bones was less likely to occur. Professor Bardenheuer had devised an elaborate system of making traction in every case of fracture. When the fragments were displaced with an angle opening inwards he applied, in addition to the usual traction in the longitudinal axis, three other tractions—namely, one towards the middle line of the body, one at the place of the fracture, and a traction on each fragment towards the exterior. When the displacement was very great so that the fragments did not touch each other at all the traction must be made with a weight of 70 pounds. In 159 cases which Professor Bardenheuer treated in this way there was no shortening. In subtrochanteric fractures where the upper fragment was much flexed simple extension was not sufficient but downward traction made through a hole in the mattress must also be applied. In supracondylar fracture not only must extension be made in the longitudinal axis but upward traction must also be applied to the lower fragment and outward traction to the upper fragment. With regard to fractures of the neck of the femur Professor Bardenheuer has observed 14 different varieties for each of which a separate method of traction had to be applied.

Professor **KÖNIG** (Altona) discussed the indications for wiring the broken ends of the femur. Fractures of the diaphysis were, in his opinion, not suitable for the operation, except in the case where portions of muscles were interposed between the ends of the bone. The proper cases for wiring were fractures of the neck of the femur; it had been found post mortem that even impacted fractures of the neck where the upper fragment had entered the trochanter had become united by fibrous tissue only. This fact explained the shortening of the limb when the patient began to walk. The same was the case in intracapsular fracture, in which also a fibrous union only took place. He therefore recommended wiring in cases of fracture of the neck of the femur. He said that this fracture was not, as was commonly believed, peculiar to advanced life, but might occur in middle-aged persons and even in children. He alluded to the case of a tuberculous patient in whom a fracture had been wired and who died some months afterwards from pulmonary tuberculosis. It was found at the post-mortem examination that osseous union had taken place only on the anterior side where sutures had been applied but not on the other sides where only a fibrous union had taken place. Isolated fracture of the great trochanter was also an indication for wiring because of the liability to serious loss of function in the event of union being imperfect. As to subtrochanteric fractures, those which were transverse might be treated by simple traction, while for those which were oblique Degage's splints were the best treatment. Traction was also sufficient in supracondylar fracture, except when there was traumatic loosening of the epiphysis, as in these cases the diaphysis was displaced backwards and might lead to gangrene by compression of the popliteal vessels. As material for suture Professor König preferred aluminium bronze wire and recommended that the patients should keep their beds for ten or 12 weeks.

Professor **SCHLANGE** (Hanover) said that in fractures of the diaphysis of the femur he had sometimes made the fracture accessible by an operation and replaced the ends of the bones in proper position without wiring. The external wound was then sutured, the thigh was fixed in a plaster-of-Paris splint, and firm union without deformity was obtained.

Dr. **NIEHANS** (Berne) recommended that the ends of the bones should be temporarily fixed by pegs, which were subsequently removed under local anæsthesia by cocaine. This proceeding was especially valuable for children whose restlessness was unfavourable to firm union taking place.

The Treatment of Enlarged Prostate.

Dr. **KÜMMELL** (Hamburg) said that in his opinion complete enucleation of the gland was preferable to partial extirpation. With regard to the time when an operation should be performed he said that it was not necessary in the first stage but only when residual urine was left notwithstanding catheterisation, and especially when cystitis or hæmorrhage had set in. An operation was contra-indicated in arterio-sclerosis, in renal insufficiency, in Bright's disease, and when the bladder had completely lost its contractility. The mortality after the operation was 10 per cent. Suprapubic cystotomy was as a rule preferable because it allowed a better view of the bladder for the detection of diverticula and calculi. It did not lead to fistula, to impaired control of the bladder, or to impotence, all of which were frequent sequelæ of perineal operations. The perineal operation was advisable only in cases of extreme obesity and prominence of the rectum. Among 41 operations performed by him there were nine in which cancer was present and the mortality of these was 33·3 per cent. After the operation micturition was under the patient's control and the urine could be retained for a period of from four to six hours. Strictures, however, sometimes developed subsequently. The operations were performed under spinal anæsthesia obtained by Professor Bier's method. When the bladder had been opened the prostate was pressed forward by a finger introduced into the rectum and a circular incision was made round the entrance of the urethra; the gland was then enucleated, the prostatic portion of the urethra being preserved as much as possible. When the bladder was not infected the mucosa and the walls of the bladder were sutured, the abdomen was closed, and a catheter was tied in.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medizinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

Professor RYDYGIER (Lemberg) advocated an early operation. He said that he had always performed a perineal operation without opening the urethra. He made an incision on both sides of the capsule and then enucleated the gland, preserving, however, two long strips of prostatic tissue about one centimetre thick at the external side of the urethra. He had never found that his operations resulted in either fistula or impotence and his patients were able to leave their beds on the second or third day.

Professor ISRAEL (Berlin) said that owing to the high mortality of the operation he only performed it when the patients were no longer relieved by catheterisation. He had always used the suprapubic operation even in very fat persons. As he had once seen profuse secondary hæmorrhage occurring after the lapse of a fortnight he always introduced a drainage-tube and left the wound of the bladder open.

Professor ROVSING (Copenhagen) recommended a more conservative proceeding. He opened the bladder only when there was profuse hæmorrhage or when there were calculi or when catheterisation was not possible; he only removed parts of the gland and was opposed to the total removal of it because serious mental aberration, leading even to suicide, had been found to occur after total removal. He had treated cases with complete success by vasectomy. In severe cystitis he made a small incision into the bladder, introducing a catheter, by which the bladder was irrigated with a solution of silver nitrate.

Dr. PAYR (Gratz) said that he had performed prostatectomy twice under local anæsthesia. Enucleation was very easy when the connective tissue was loosened by injection of the anæsthetic fluid between the capsule and the body of the prostate.

Cancer of the Bladder.

Professor ROVSING said that he had performed total removal of the bladder either when there were multiple deposits of cancer or when a considerable area of the wall of the bladder was attacked by the growth. Metastases in the lymphatic glands occurred rather late. In operating he made a curved incision through the skin and the muscles of the abdomen. The bladder, which was filled with 250 grammes of antiseptic fluid, was not opened, but was enucleated first on the anterior, then on the lateral, and finally on the posterior aspect. The ureters were divided two centimetres above their entrance into the bladder and were left hanging *externally* through two lumbar incisions.

Resection of the Liver.

Dr. ANSCHÜTZ (Breslau), in giving some account of the methods followed in resection of the liver, said that the hæmorrhage might be checked in various ways. In one style of operating the affected parts were quickly removed by free incisions; the bleeding surface was temporarily compressed by assistants and all the bleeding points were successively tied. Another plan was to make a preliminary application of ligatures in each region and then to cut the tissue slowly. It was essential to have a good view of the field of operation. He preferred temporary resection of the ribs to the transpleural method. Below the seventh rib the pleura was no longer met with if the incision was made on the cartilaginous part; below the tenth rib even the bone might be cut through. In resection of a wedge-shaped piece of the liver the cut surfaces that were left must be cautiously united by sutures, after which the abdominal wound was closed.

Abscess of the Spleen.

Professor KÜTTNER (Marburg) said that abscesses of the spleen might be caused by mechanical injury, by septic infection, or by infarcts in malaria, in enteric fever, in puerperal fever, and in ulcerative endocarditis; they might also be caused by direct contact in cases of perforation of the stomach. When it was found that subphrenic abscesses of the left side contained pieces of tissue among the pus it must be suspected that they proceeded from the spleen. Professor Küttner described a case in which the spleen had been removed on account of a gunshot wound and in which an examination made after the patient's recovery proved that the number of the red corpuscles had increased to 6,000,000 per cubic millimetre and that the hæmoglobin had increased to 129 per cent. He showed a patient suffering from myelogenic leukæmia whose spleen he had removed. It was moveable and enormously enlarged. No effect was produced on the leukæmia and no benefit was obtained from treatment by the x rays.

Gangrenous Hernia.

Dr. RINDFLEISCH (Stendal) said that in operating on gangrenous hernia he had used a method of invagination devised by himself. After detaching the mesentery from the gangrenous intestine the latter was compressed by Doyen forceps at the boundary between the gangrenous and the healthy parts and was then invaginated. The serosa of both parts was then united by sutures, after which the gangrenous portion was spontaneously thrown off.

Torsion of the Omentum.

Dr. ADLER (Pankow) reported a case of supposed appendicitis in a hernial sac which he had operated on. When the sac was opened omentum containing extravasated blood was found in it. Laparotomy was thereupon performed and showed that the omentum as far as the transverse colon had become twisted on itself so as to make a complete revolution. The omentum was removed and the patient recovered.

Meningitis Serosa Spinalis.

Professor KRAUSE (Berlin) said that among 20 patients who had presented symptoms suggesting spinal tumour and had been operated on by him he had eight times found within the spinal arachnoid circumscribed collections of fluid, which at the operation escaped in such a way as to show that it was under considerable pressure. These collections must have originated by inflammatory adhesions between the dura mater and the pia mater. The paresis of the limbs and the difficulties which had been experienced with the bladder and rectum disappeared after the operation. In Professor Krause's opinion these cases proved that meningitis serosa spinalis had a real existence.

Election of President.

Professor VON EISELSBERG (Vienna) was elected as President of the Congress at its next meeting.

FOOD AND THE HEALTH OF THE NATION.—The members of an association known as the Bread and Food Reform League have arranged to hold a meeting at the Mansion House on June 26th to inaugurate a campaign designed to spread—without advocating any special system of diet—scientific and practical information about healthy and economical foods. The prevention of adulteration will also be in their scheme for insuring that the nation may have well-fed, healthy children. The Lord Mayor, who will take the chair, is to be supported by, among others, the Marchioness of Ormonde, Sir James Crichton-Browne, Sir John Jardine, Sir Walter Vaughan Morgan, Sir William Ramsay, the Rev. Prebendary Carlile, Mr. A. Pearce-Gould, Dr. G. A. Heron, Mr. Mayo Robson, Sir William J. Collins, and Sir Alfred Fripp, and representatives of societies interested in promoting the welfare of the people. Tickets and further information may be obtained from Miss May Yates, honorary secretary, 42A, Bloomsbury-square, London, W.C.

SOME TURKISH LAZARETS

AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

(*With Reproductions of Photographs taken by the Author.*)

V.[1]

THE CAMARAN LAZARET (*continued*).

The Three Water Services: (a) Sea-water Supply; (b) Fresh-water Supply—the Distilling Apparatus, Central and Peripheral Reservoirs, Mode of Distribution, and the Ice Machine; and (c) Well-water Supply.—The Two Existing Method of Excreta Disposal: (a) The Motte System—Latrines, "Collectors," Cesspools, Pumps, Excreta Tanks, and "Jetée de Vidange"; and (b) Latrine Jetties on the Sea-shore.—Defects of Both Systems.—New System Proposed.—Trough Closets with Automatic Flushing-tanks; "Fosses à Fond Perdu"; Experimental Observations.

THERE are three water services in the Camaran lazaret: (*a*) sea-water, (*b*) fresh-water, and (*c*) well-water. Each of these services has one or more systems of pipes, by which the water is distributed to different parts of the lazaret.

(*a*) *Sea-water service.*—Sea-water is distributed to all the cordons to supply the latrines, to the disinfecting pavilion for the baths, and also to the distilling apparatus and ice-machine. There are two separate sea-water services: one for the first, second, and third cordons, and the other for the fourth, fifth, and sixth cordons. Each has a powerful pump which raises the water to a large central reservoir. These reservoirs are placed at the top of water-towers; the water-tower for the three further cordons is seen in Fig. 5 (No. III.), whilst a similar, but lower, tower, near the machinery buildings, supplies the first three cordons. From the central reservoirs the water flows to smaller reservoirs on lower towers, one of which exists in each cordon. All the reservoirs are built of armoured cement; the pipes are of cast iron. In the cordons themselves smaller pipes of the same material distribute the water to the latrines. The two "central" reservoirs can hold respectively 20 and 19 tons of sea-water; those in the cordons can hold about ten tons each.

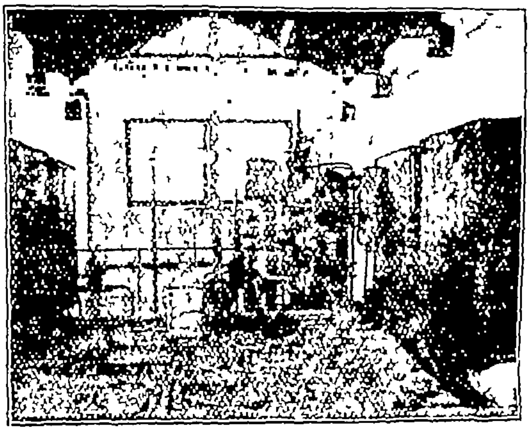
The concentration of the lazaret will involve the abandonment of the sea-water service for the three further cordons as it now is. The Commission proposes to put up one large central reservoir of 50 tons in place of the 20-ton reservoir near the administrative buildings which now serves for the first three cordons, and to have one system of piping for all the six cordons. Both pumps would be housed close by the new large reservoir. By taking up the pipes which cover the long distances between the three further cordons in their present positions, the lazaret will have something like two kilometres of piping in reserve. It is further recommended to provide all the reservoirs with ball-taps, permitting of their automatic filling, and with water gauges.

(*b*) *Fresh-water service.*—The drinking-water at Camaran is provided by a distilling apparatus, which converts sea water into excellent fresh water. The machine was bought from the firm of Mirrlees, Watson, and Yaryan of Glasgow in 1895. The total cost (including the distilling apparatus itself, transport, mounting, boilers, and other accessories) was about £4000. It has given excellent results. It produces about 26 tons of fresh water in a day of 12 hours; working day and night it can produce as much as 60 tons in the 24 hours. The amount of coal burnt varies with the quality; on an average a ton of water can be furnished by burning about 45 kilogrammes of good Cardiff coal, whereas of Indian, Newcastle, or Turkish coal it requires 60 kilogrammes to produce the same quantity of water.

Distilled water is given gratuitously to the pilgrims, to the staff of the lazaret, to the local postal and customs authorities, to the crews of the Turkish stationnaires, to the officers of the military guard at the lazaret, to all workmen or employees, to ships in quarantine (if asked for), to government transports, to the military hospital, and to the staff of the Camaran arsenal. It is also distributed to the ice machine, to the generators of all the machines, and to the disinfecting stoves; and finally, a certain amount is sold on the island or on the mainland. The price is 60 piastres (10*s.*) a ton. The quantity of distilled water allowed to each pilgrim is five litres a day, to each unmarried member of the staff ten litres, and to each married member 20 litres.

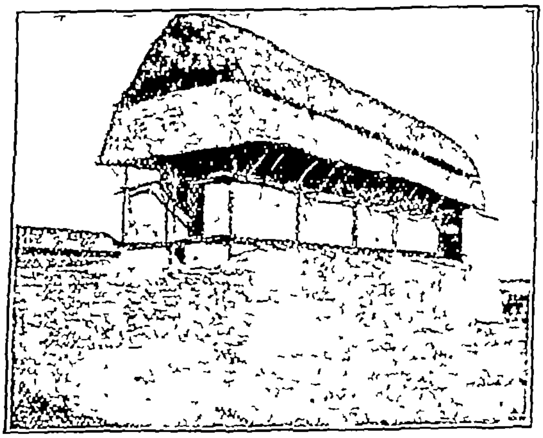
From the distiller the water passes to 16 large reservoirs, eight of which are in the machinery building itself (see Fig. 14) and the other eight are placed in the curious structure which appears in Fig. 15. The basis of this structure is of very solid masonry and was originally intended to store the ice made in the ice machine, to which I shall refer presently. As a matter of fact, ice is never stored there, as it is distributed as rapidly as it is prepared, but the whole structure is still often called the "*depôt de glace.*" The eight iron reservoirs, four small and four large, are supported on very thick masonry walls and are covered over with a roof of matting and palm-leaves, which protects the water from the sun's heat. The whole has rather a droll appearance but is none the less a very practical and successful arrangement.

FIG. 14.



Fresh water reservoirs in the machinery building.

FIG. 15



Fresh water reservoirs over ice depôt.

From the eight reservoirs in the machine building itself the water passes to a filter outside, below which is another small reservoir with tap attachment. From here a five-centimetre pipe conducts the water right to the end of the Mervani landing-stage, where portable tanks can be filled and the water thus conveyed to ships that require it. The water from these reservoirs is also distributed to the staff of the lazaret, to workmen and employees, and, in short, to all the persons other than pilgrims mentioned above. Some of it is even, under existing conditions, carried to the three further cordons of pilgrims; but that, as will be shown, was not originally intended to be the case and has been necessitated solely because the water does not flow freely to those cordons in the piping provided for it.

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[1] Nos. I., II., III., and IV. were published in THE LANCET of April 27th (p. 1183), and May 4th (p. 1251), 11th (p. 1317), and 18th (p. 1359), 1907, respectively.

From the eight reservoirs over the so-called "ice depôt" two pipes conduct (or should conduct) the water to the six cordons for the use of the pilgrims. One is a pipe of five centimetres (about two inches) and distributes the water to cisterns in the first three cordons; the other is a pipe of six centimetres and is intended to distribute the water to the last three cordons. But for some reason that has not been satisfactorily explained the water has never reached these distant camps or has reached them in extremely small quantity. No doubt the long distance the water has to flow, and the fact that some of those camps are on rather high ground, increases the difficulty which the water finds in reaching them; but in the opinion of an engineer who accompanied the Commission there is a sufficient difference in level between the central and peripheral reservoirs to allow of a free flow, and he ascribes the difficulty to some serious obstruction of the pipes. He suggests that in all probability, when the pipes were first laid down, a careless workman in soldering them up allowed a quantity of lead to run into the interior at one or more joints and that this has caused the obstruction. The explanation is a very probable one and is supported by the fact that the obstruction has existed from the time the pipes were laid down. The only way to prove or to disprove the truth of this assumption would be to examine every joint, but as the Commission proposes in any case to do away with this second piping and have a single system of pipes for all six cordons the question ceases to be of practical interest, save as indicating the necessity of care in future and of supervision of the workmen employed to lead the joints.

In suppressing the second system of fresh-water pipes a vast quantity of these pipes (over five kilometres) will be set free; some will be needed for continuing the first system to the three further cordons and the rest can be employed to conduct water to the hospitals, to the houses (new and old) where the staff is lodged, and elsewhere.

In the camps themselves it was originally intended to stock water in large underground cement reservoirs, and such a reservoir was constructed in each cordon. They vary in size; some are large enough to hold 30 or 40 tons of water. But they have never been used as originally intended. Iron cisterns were ordered, and these have in many instances been placed inside the cement reservoirs. The Arab employee has to descend a flight of steps to the bottom of the underground reservoir and fill the pilgrims' water-jugs from a tap in the iron cistern. The arrangement is not a satisfactory one; the bottom of the reservoir is always damp and has often an unpleasant smell; there is little room between the walls of the reservoir and the cisterns; and the employee fills the pilgrims' receptacles in semi-darkness and away from all control by any higher functionary. For these reasons the Commission proposes to place the iron cisterns above ground in all the camps, in a position where the medical man in charge can control the operation and to cover the cisterns with a mat and palm-leaf roofing to protect them from the sun. This method has already been adopted in one of the cordons and has given excellent results.

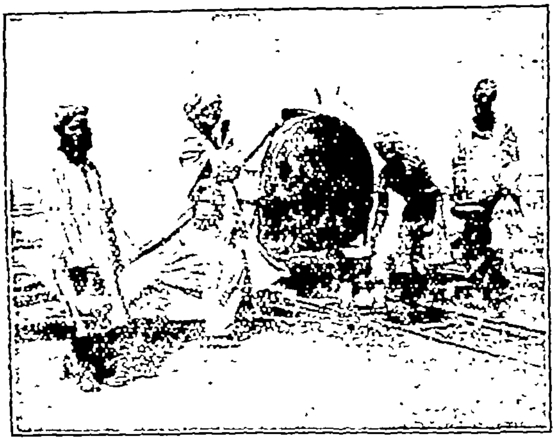
In the further cordons, as already stated, though the reservoirs exist, no (or little) water reaches them. Water is therefore carried in tanks on wheels, which are pushed by Arabs along the Décauville railway from the central reservoirs to the camps. This method involves much labour and expense; the water risks getting contaminated, and it becomes unpleasantly heated by the sun. One of these portable cisterns, under a tent, is seen in Fig. 16; the photograph was taken at the fourth cordon.

The Commission recommends that all the reservoirs, central and peripheral, should be provided with ball-taps and overflow pipes. By the side of most of these charcoal and sand filters already exist.

The water is distributed to the pilgrims twice a day—morning and evening. Each pilgrim receives a small metal tally, giving him the right to two and a half litres (rather more than half a gallon) twice daily. Before going on to describe the third system of water-supply (well-water) it will be convenient to mention the ice machine.

The ice machine.—This was bought from the firm of de Nayer, of Brussels, in 1896. It is installed in the same building as the distilling apparatus. It can produce 1200 kilogrammes of ice in 12 hours, or 3000 in 24 hours; ordinarily it works about 11 hours a day in the pilgrim season. The ice, which is of excellent quality, is given gratuitously to most, if not all, of the persons mentioned above as receiving free rations of distilled water. It requires about one and a third tons of coal to produce a ton of ice.

FIG. 16.



Moveable water tank under tent at the fourth cordon.

(*c*) *Well-water supply.*—In a very picturesque oasis in a valley lying to the north-west of the village of Camaran there are a score or more of wells of different sizes and depths. Seven of them supply a certain amount of water to the lazaret, while the rest furnish the village with their sole drinking-supply, and morning and evening a stream of camels and donkeys may be met, carrying the water in empty petroleum tins or in skins. The seven wells that furnish the lazaret have been at some time surrounded by walls and a rather elaborate arrangement of filters and reservoirs has been constructed in their neighbourhood. These have for the most part fallen in ruin. The enclosure round the wells nevertheless remains and a masonry tank, in which the water deposits some of its grosser impurities, is still in good condition. Some of the wells, the enclosure, and the tank are seen in Fig. 17. The tank is laboriously filled from the wells by Arabs who use for the purpose a primitive leather receptacle, as shown in the illustration. It is proposed to put up one or more pumps which will render the process easier and speedier. From the tank a five-centimetre pipe conducts the water down the valley to stand-pipes, situated near the brick-fields (to be mentioned later), which is the

FIG. 17.

The wells. Arab filling reservoir with well water.

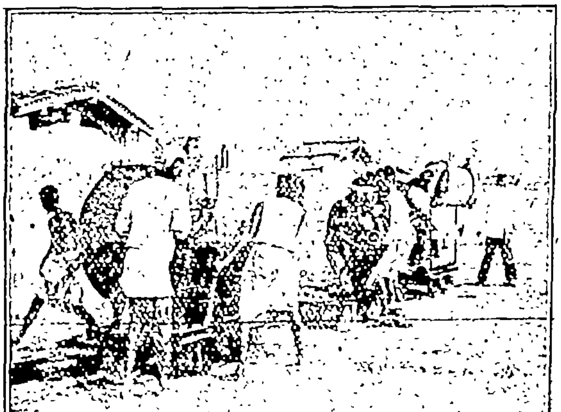
nearest part of the lazaret. The whole distance is about one and a half *kilometres*.

The quality of the well water varies, it is said, greatly. There is apparently communication between the wells and the sea, as when the tides are exceptionally high the well water becomes quite salt. After long drought, when the water level is low, the water is often muddy and brackish, but after rain, and when the level is high, it seems to be of by no means bad quality. When tasted in January last it was quite sweet and pleasant to the palate, but it was impossible to analyse it. This water is used by the employees of the lazaret for washing clothes, for watering gardens, for baths, and similar purposes. Before the distilling apparatus was put up it was the sole supply of the lazaret, but the quantity proved insufficient and the quality too uncertain and variable.

The proper disposal of excreta is one of the most difficult problems that an institution such as a large lazaret presents. Two systems are at present in action at Camaran and neither has given very satisfactory results. They are (*a*) what is known as the Motte system and (*b*) a system of latrine jetties on the sea beach.

(*a*) *The Motte system* is composed of a series of small houses containing the water-closets; drains or "collectors" which convey the excreta to the cesspools; cesspools just outside the cordons; a pump to empty the cesspools; receptacles on wheels into which the excreta are pumped; and, finally, a jetty where the excreta are emptied into the sea. The houses, each of which contains two latrines, are built of brick, covered with plaster, with tile roofs. Most of them are in a bad state, the plaster having more or less completely fallen, and the bricks, thus exposed to the air, tend to crumble to pieces. The latrines ("*à la Turque*") consist of a mere hole in the stone flooring of the hut; such latrines are in use in all Moslem countries. To work well it is essential that the stone should be sloped and grooved so that all liquids and solids are carried to the hole. This precaution was not taken at Camaran, and in some instances the floor actually sloped away from the hole and liquids flowed out under the door. A tap of sea-water exists in each latrine, but it opens horizontally and a strong jet of water spirts against the opposite wall covering the occupant with its splashes. A valve was inserted under each hole, working on a pivot with a counter-weight, but these soon became ankylosed with rust and ceased to work.

FIG. 18.



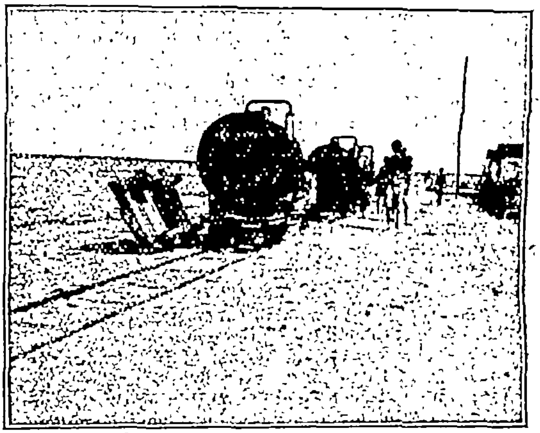
The Motte system at work; bringing the pump and tanks to the cesspool.

The "collectors" are large pipes, *constructed of brick*, covered with cement. Their external diameter is 60 centimetres and their internal diameter 35 centimetres. A pipe of this nature and size is disproportioned to the work it is intended to do; it would require an immense flush to keep it clean, whereas at Camaran the only flush is the small quantity of water used by the pilgrims for their ablutions. It is possible, also, that the internal surface of the collectors was never wholly smooth, being made of brick. As a result many of them became completely blocked and had to be broken open for cleansing. The defects both of latrines and collectors were indeed so serious *that the lazaret authorities* have had to close many of them and the pilgrims have to go to the latrine jetties, to be described later.

The cesspools, of which there are from two to eight at each cordon, appear to have *been well constructed*. They are lined throughout with stone, covered with cement, and are intended to be water-tight. Their covers are either of brick or of armoured cement. Their chief defect is the absence of a ventilating pipe, and as there are no traps on the collectors, and the valves under the latrines do not work, the gases escape from the cesspools into the latrines. The pilgrims complained much of the odours thus caused, which could be smelt not only in the latrines *themselves but also in* the arishes situated at all near the latrines.

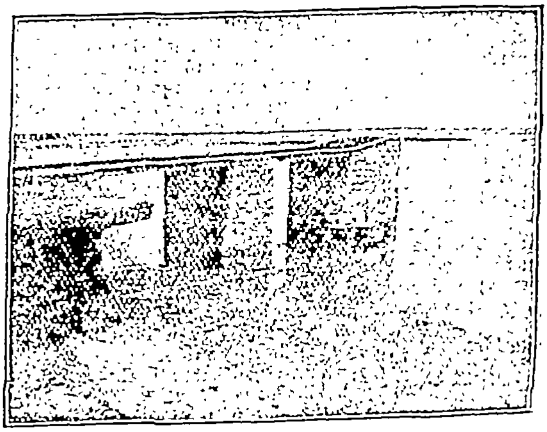
The pump and excreta tanks ("*wagons-tinettes de vidange*") are seen in Figs. 18 and 19. A glance, indeed, at these illustrations gives a better idea than any description of the process of emptying the cesspools and conveying their contents to the sea. Each tank holds a ton of liquid; it requires from 25 to 30 minutes pumping to fill it. The tanks are pushed by Dankali natives along the Décauville railway to a jetty on the shores of a bay to the north *of the last* cordon, where their contents are emptied into the sea. This jetty, known as the "*jetée de vidange*," is seen in Fig. 20.

FIG. 19.



The Motte system at work; wheeling the excreta tanks to the jetty.

FIG. 20.

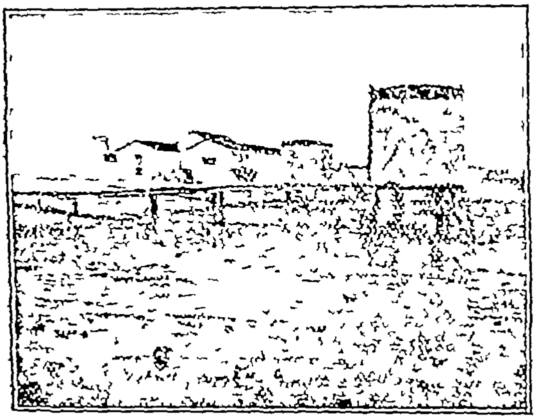


Jetty for disposal of excreta.

The principal disadvantages of the Motte system as adopted at Camaran are the following. The latrines, collectors, and cesspools have the serious defects pointed out above. The process of pumping up the contents of the cesspools involves the use of indiarubber pipes with metal joints. The indiarubber soon deteriorates in a tropical climate; the joints, moreover, are with difficulty kept water-tight (by constantly plastering them over with putty); a vacuum is thus formed only with difficulty; some of the liquid escapes at the joints, and a still larger quantity falls on to the ground when the operation is over and the pipes are unscrewed. The same liquid tends to drip from the tanks themselves during their long transit to the sea. From the first cordon to the jetty is about three miles and this distance has to be traversed many times to empty all the cesspools. The natives dislike the task extremely, and there is no doubt that the work is both very laborious (particularly with a badly laid railway track) and very unpleasant More than once the natives have threatened to strike altogether.

(b) *Latrine jetties* —Owing to the practical failure of the system above described it was soon found necessary to run up temporary jetties on the seashore with latrines at the end, while the whole question of excreta removal could be re-studied and some better and more permanent system found. The character of these jetties, of which there are three in front of each of the first three cordons, is seen in Fig. 21. They are simple wooden structures with matting enclosures at the end. The results they give are very unsatisfactory and unpleasant. The tide goes out a long way beyond their ends, and it is only for a short period before and after high tide that they have water under them The effect can be imagined and need not be described. But it must be added that, as the pilgrims bathe in the sea in the near neighbourhood of these jetties, the condition is one that is likely to be as dangerous as it is certainly unpleasant These jetties should disappear as soon as the new system proposed by the Commission is introduced

FIG 21



A latrine jetty on the seashore.

New system proposed —The Commission recommends the introduction at Camaran of a system of trough closets with automatic flushing tanks. There should be four chalets in each camp of average size, each chalets containing five closets, or 20 in all. It is unnecessary here to describe the details of this kind of closet, so well known to English sanatarians in all parts of the world, but practically unknown in this country. The report of the Commission describes the arrangement in full detail and that of the engineer who accompanied the Commission is illustrated with plans and sections. An arrangement of this kind is probably the most satisfactory one that can be suggested where latrine accommodation has to be found for large numbers of relatively uncivilised persons, as most of the pilgrims are. It requires, it need not be said, to be properly installed in the first instance, and a certain amount of care and attention are necessary to keep it in good working order.

For the ultimate disposal of the excreta it is recommended that a trial should be given to absorbing cesspools—that is to say, to cesspools with unlined bottoms, by which all the liquid portion of the sewage can be absorbed. Such cesspools ("*fosses a fond perdu*") would obviously be undesirable in an ordinary town or village and it is only on account of the exceptional conditions prevailing at Camaran that it becomes possible to approve of their use To begin with, the lazaret is an isolated institution occupied for only about four or five months in the year. During the rest of the year the soil, which would otherwise become permanently fouled, has time to purify itself completely by natural processes of oxidation or nitrification. The soil is, for the most part, an absorbent sand; hard rock occurs here and there, but apparently strata of sand can always be found if the rock be penetrated to a few yards' depth.

In order to ascertain the absorbent power of the soil the Commission caused two such pits to be dug, one near the first cordon and the other near the second. Near the first cordon nothing but sand was met with; near the second (which lies high) alternate layers of rock and sand were found. Measured quantities of fluid—both pure sea-water and sewage from the existing cesspools—were poured into these experimental pits and the time taken for their absorption was noted. The results (the details of which are fully set forth in the Commission's report) were very satisfactory. In some of these experiments eight or ten times the amount of sewage likely to enter any one of the cesspools in 24 hours were poured into the experimental pits at the second cordon (the one offering the least favourable conditions) for days together, without the bottom losing its absorbent power. Apparently (certainly at the pit near the first cordon) the sea-water at high tide infiltrates to the bottom of the pit, and as the tide descends a marked suction action is set up and most or all of the fluid contents are thus absorbed.

The ultimate fate of the solid portion of the sewage is a problem of some interest Cesspits of this kind exist at the lazarets of Suakim and of Tor (at present only for the hospitals and some other portions of these establishments, and it is proposed now to introduce them also for the pilgrims at Tor). Experience there has shown that the solids disappear in a remarkable manner and the pits rarely, if ever, require cleaning out. By the side of some of the pits water-tight cesspools have been constructed in which the sewage deposits most of its solids before flowing into the absorbent pits, but even these "almost never," it is said, require cleaning out. At the village of Camaran also such absorbent pits are in use in most of the better-class Arab houses. I examined several of these and was not a little struck by the complete disappearance of the solids from them. At one house, for example, which had been continuously occupied for five years by an Arab family, the cesspool (only one and a half metres deep) had never required cleaning during the whole of that period. At another, which had been occupied for five and a half years and only evacuated two weeks before it was inspected, I had the cesspool opened up. It was only about a metre deep yet there was not a trace of solid matter in it, and it was entirely odourless. Whether equally satisfactory results will be obtained with the larger pits and the more numerous population represented by the lazaret (when full) only experience can show; and the Commission proposes therefore to try it first at one of the cordons only before introducing it in all. The cesspools will be about two metres in diameter, and from two to three metres deep, according to their position and the nature of the soil. They will be about 20 metres (65 feet) away from the latrines and outside the cordons; their walls will be lined with masonry without mortar for about a metre from the bottom, and with mortar for the rest of their height; they will be covered with a cement vault with a manhole in it They will be ventilated by a pipe carried up well above the roof of the latrines.

There are no surface springs or wells to be contaminated by infiltration from these cesspools. The lazaret is supplied, as already shown, with drinking water distributed in closed pipes, which lie for the most part on the surface of the soil. Care will be taken that these pipes occupy a higher position (i e., further from the sea) than the cesspools, so that even if they should leak there should be no possibility of the contained water being contaminated.

It may confidently be hoped that this new system of latrines and excreta disposal will give better results than does that now in use. All manipulation of the sewage matter will be avoided as it will be disposed of automatically. The wearisome and unpleasant task of pushing sewage-laden tanks for many miles under a tropical sun and on a badly laid railway track will no longer be imposed on the unwilling natives. There will be no pumps or indiarubber tubes to get out of order and leak, and liquid sewage will not, as at present, escape on to the surface of the soil near the cordons or be sprinkled on the railway track from one end of the lazaret to the other.

(To be continued.)

THE BASLE MODEL MUNICIPAL ABATTOIR.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 1339.)

THE slaughter hall for pigs at Basle is as carefully built and organised as is that for the large cattle. The flooring and the walls are made of the same non-absorbent, glazed, and washable materials. But there are different appliances. Thus with pigs the removal of the bristles necessitates a special process. Here, as in most other places, the scalding process is adopted. Within the slaughter hall there are two railed-off compartments or pens which can contain a batch of pigs brought in from the outside to be slaughtered. After these have been killed in the usual way there are revolving cranes ready for use and close at hand. The body of the pig, fastened to the pulley chain, is lifted from the ground; the crane makes a half turn and then lowers the dead animal into a tank containing boiling water. When it has been scalded enough to loosen the bristles the crane raises the body out of the water and deposits it on the long plank tables where the bristles are scraped off. The large open tanks of boiling water naturally give off a great deal of steam, especially in winter, and as this does not readily dissolve in the air or float away a nuisance would be caused unless suitable arrangements were made. Therefore, a large shaft has been fixed near the ceiling with inlets descending closer to the tanks. Hot air is propelled through the shafts and as there are apertures every 30 feet the colder steam and air of the slaughter hall are drawn away into the shaft. On the opposite side of the slaughter hall and along the whole length of the wall there is a row of enamelled sinks about one foot deep. Above each sink there is an ingenious arrangement of taps—one for hot and one for cold water, and a third that provides a mixture of hot and cold water. It is here that the intestines are washed out. The bulk of the foul contents is emptied into metallic receptacles standing on wheels that are placed by each sink and then the gut is washed. Underneath these sinks the floor takes the form of a gutter or open drain, so that anything spilt or splashed or any dirt which accidentally falls on the floor is readily and rapidly washed away. As a result, and though this is very dirty and unpleasant work, there is little or no odour to be noticed.

The water, of which a very large quantity is required, is pumped up from a well dug to a depth of 18 metres, this being two metres, or rather more than six feet, below the level of the bed of the Rhine. Some 70 hectolitres are pumped up per hour. There is a large cold-water reservoir and another in which the water is warmed by steam. To do this pumping and all the other work for which mechanical power is needed there is a steam engine of 125 horse-power. This is used not only for pumping and ventilating and for compressing carbonic acid gas but also to set in motion some American meat-cutting machines. All this is a great convenience to the trade. Pork butchers and others not only avail themselves of the steam power and perfected machinery to make their sausage meat, but instead of taking it all to their shops, where it would soon go bad, they only carry away just enough for their immediate needs and come every day for a fresh supply, leaving the rest in the cold storage where it can be preserved indefinitely. At the same time all this meat is watched, and should any of it go bad or prove not to be good it is at once confiscated. So complete and excellent are all the appliances that skilful men can kill and dress a pig and send it away out of the slaughter hall in 20 minutes. As there is room enough in this hall to kill 80 pigs at the same moment, and though rapidity is not the object held in view, it will be seen that nevertheless the work can be done very promptly and quite quickly enough for all practical purposes. Indeed, it is accomplished with so much greater celerity than would be the case in a private slaughter-house that the time and trouble saved must go a long way towards paying for whatever expense may be caused by the abolition of private slaughter-houses.

A long time ago[1] I described the Berlin cattle station, but that at Basle, though much smaller, is even more perfect in its arrangements. First, I should remark that the site for the abattoir has been well selected from the point of view of isolation and yet of accessibility. On the north-east side there is the Rhine, and the dwellings on the opposite side of the river are more than 200 metres away. To the south-east there is a garden and the remnant of an old rampart and these are inalienable State property. On one side only are there any dwellings, and these are for the most part inhabited by workers at the abattoir. The rest of the surrounding space is occupied by large warehouses. Then the ground, though close to the Rhine, is some ten metres above the river, so there is a good fall for the drainage and no fear is entertained of back currents of sewage or sewer air.

Along the Rhine embankment there is a carriage way with a row of trees, next comes the railway siding, and then there are the slaughter-house grounds. Here, where the cattle vans stop, the whole of the space between the railway metals is built in a concave manner and carefully cemented, and there is a drain under the line. The inlets to this drain are, of course, in the centre and immediately under the middle of the cattle vans or railway carriages. Thus anything falling is drained away and does not sink into the earth. At Basle a landing platform has been carefully built so as to be on just the same level as the floor of the railway cattle vans, and the animals are thus able to step from the van on to the platform with the greatest facility. The platform is, of course, absolutely watertight, being made with paving stones and asphalte between them. At both extremities of the platform there is a fire hose which sends powerful streams of water on to the platform to wash everything away after each arrival of animals. There is an ingenious system of iron bars and railing for the separation of the cattle and other animals. And the vans are strewn with a sandy earth, which is preferable to straw, as the latter when wet becomes very slippery.

Near the railway siding is a large and model pig pen or stable. In a little outer building there is a cemented and railed-off corner where the pigs are placed on arriving. Here they cannot escape from a strong jet of water which is played upon them till they are thoroughly cleansed. It is only after they have satisfactorily terminated their toilet that they are admitted into the larger building. Within there are numerous partitions. All these railings and gates are, of course, of iron. There are double hinges, so that the doors or gates open both sides, and very ingenious contrivances are used to compel the pigs to go precisely to the partition or pen that has been allotted to them. Granulated porcelain tiles, carefully cemented together, cover the whole flooring. The floor is nowhere absolutely flat but there is a slight slant, so that all liquids drain into a sort of gutter which surrounds all the pens. This gutter is covered with an iron grating. This is found more practicable than a drain-pipe underground. The iron grating can be lifted off, straw or other impediments removed, and the drain itself scoured or brushed and kept thoroughly clean. There is thus no danger of a stoppage in the drains. The pigs are fed from iron troughs which can be filled from the outside by partially lifting a railing in a slanting direction, so that the swill can be poured in without letting the pigs escape. By a crank and windlass arrangement all the windows on one side of the building open simultaneously when a handle is turned. At one end there are boilers in which to cook the pigs' food and serve it hot—at least in winter. Finally, when the pigs are conducted from this ideal abode, where they spend the last days of their existence under the most comfortable and hygienic conditions, there is no need to drive, to push, or to beat them. Passages made by iron railings conduct them to the pen within the slaughter hall. They have no choice as to the road; they must go forward, slowly or quickly; the slightest urging from the attendants suffices to lead them to the final stage of their life's journey.

Near the pigs' pens there are stables for cattle, the quarantine station is at the frontier which is so near and where the cattle on arriving are examined by the veterinary surgeons who detain suspicious cases. This stabling within the abattoir premises is placed opposite the railway siding where the ground becomes narrower. In the broader space there are various large buildings, the largest and central one of which contains the engine and boiler rooms with all the cooling and ventilating machinery, and the cold storage adjoining. On one side of this big block is the model pig slaughter hall and on the other side is the model slaughter hall for cattle. Opposite these fine buildings there remains the old

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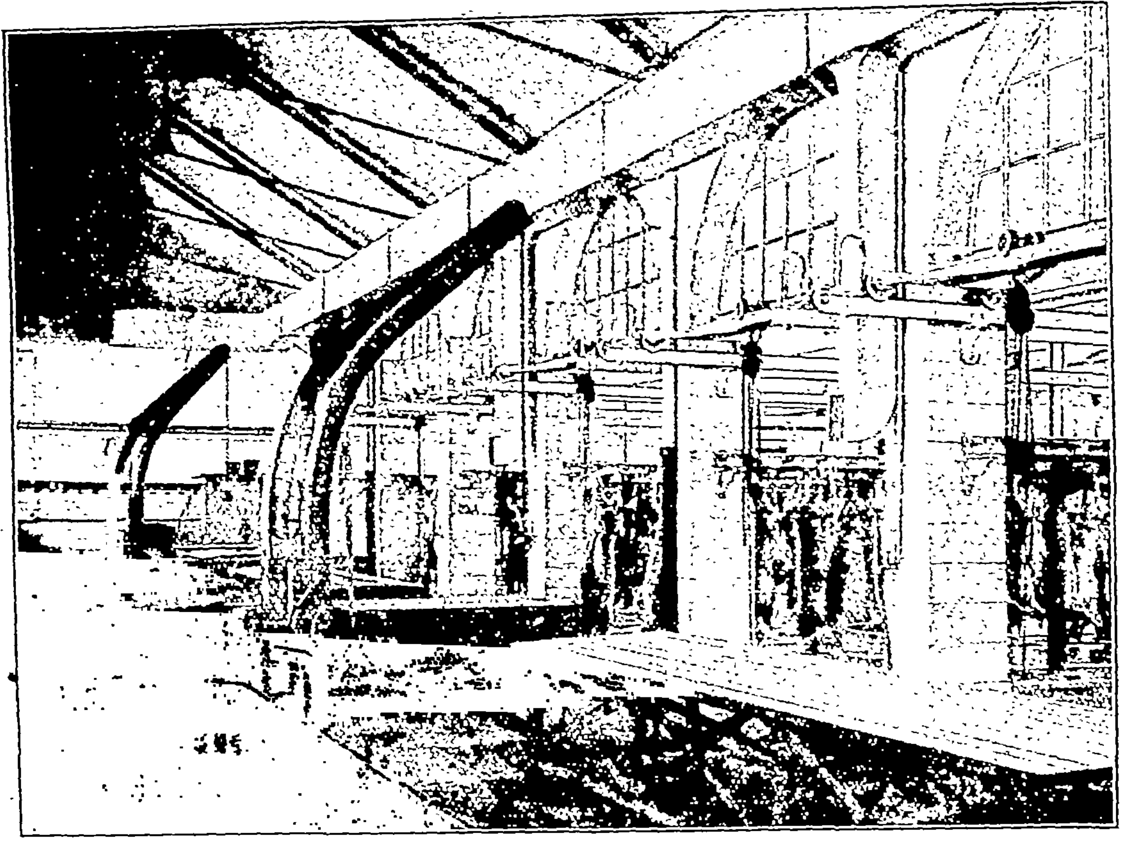
[1] THE LANCET, July 14th, 1894, p. 101.

FIG. 4.

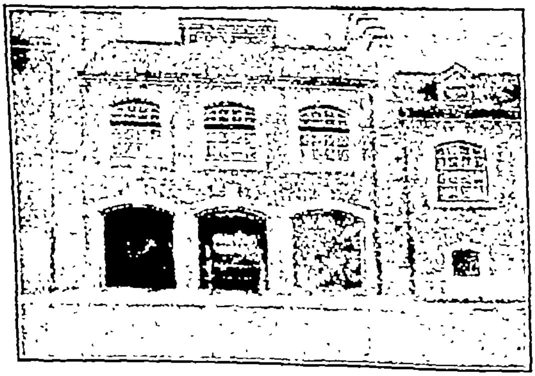


The Basle municipal abattoir. The slaughter hall for pigs. On the left are the iron railings which constitute the pen where the living pigs are brought in. The revolving crane, the circular tanks for scalding, and the tables for scraping off the bristles are close at hand. The metallic ventilating shaft is suspended over the arches, while the inlets for drawing off the steam and air are fixed against every alternate pillar.

slaughter-house, perhaps just so as to show "how not to do it." It consists of long pavilions divided into small compartments where each butcher could work in private. These portions of the buildings are hardly ever used and will doubtless be pulled down to make room for better structures when the need for enlargement makes itself felt. Then there is also a separate building for the killing of sheep and calves about which nothing special can be said, but the disposal of the by-products merits special notice.

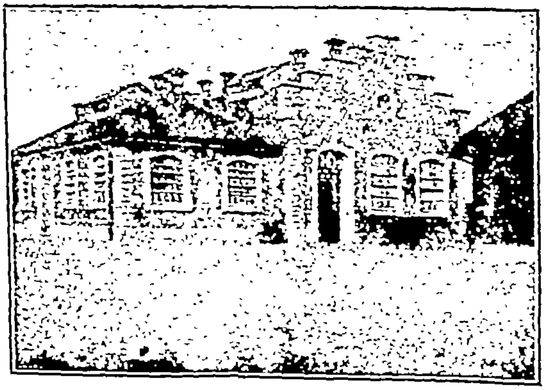
First and foremost there is the important fact that a special structure has been built exclusively for the emptying of the stomachs and larger intestines. The photograph (Fig. 5) which I was able to take illustrates the system. The little structure when approached from the abattoir yard seems to have but one floor with an area and a basement; but if viewed from the outside or from the Rhine embankment it is seen to have two storeys. In the floor above are great stone troughs in which the contents of the larger intestines and stomachs are emptied and this material falls into tank carts that stand ready underneath. When one of these

FIG. 5.



The Basle municipal abattoir. Exit outside the abattoir grounds from the special building or emptying the stomachs and larger intestines. The tank carts receive the visceral contents from above.

FIG. 6.



The Basle municipal abattoir. The tripe-preparing department. Calves' heads, sheep's feet, &c., are boiled in the smaller building to the left. The open louvre windows, the lantern ventilators, and patent cowls on the roof are supplemented inside by air shafts and motor fans.

tanks is full it is closed, the horses are brought out of the neighbouring stables harnessed, and the tank is taken away. It will be noticed that these tank-carts are outside the slaughter-house premises, though they are filled from within. They therefore do not enter that part of the abattoir where the meat is conveyed out of the slaughter-house, where these carts never go. Then it will be observed that where this dirty work is done nearly all the wall space is perforated by windows or doors and the windows have louvre openings to direct the draught upwards. But not content with the ventilation and the through draughts thus provided and for fear that the windows might at any time be shut there is a large lantern ventilator on the roof which cannot be shut. Then the troughs themselves also act as ventilators, for they have openings about a foot square, through which the refuse falls into the cart below, but air also passes through.

The tripery is next to this compartment and a small opening in the wall enables the men to throw the tripe through. As it falls in the tripery it is placed in deep troughs made of granite where it is left to soak. The floors throughout are of granite flagstones carefully cemented together and the walls, to a height of five feet, are of glazed bricks. Thus all dirt is readily washed away and none can be absorbed. But the elaborate methods of ventilation are still more remarkable. The accompanying illustration (Fig. 6) shows two buildings side by side. In the larger structure the tripe is dressed; in the smaller the heads and feet are boiled. It will be noticed that throughout louvre windows abound on all the external walls. But there are also two large glass-framed lantern ventilators on the apex of each roof and a considerable number of Dr. Platner's ventilating cowls. It might be thought that such abundant means of natural ventilation would suffice. All scientific authorities, however, know full well that natural ventilation is *not* to be relied upon. Consequently there are air shafts along the inner walls and near the ceiling. An electric motor causes a fan to revolve so as to propel through these shafts some very hot air. This is easily obtained as throughout the building there are pipes supplying hot and cold water for the preparing of the tripe and boiling of the feet, the calves' heads, &c. The air shafts have small openings every three feet to draw away the steam and vitiated air.

On the other side of the building, constructed especially for the emptying of the contents of the stomachs and large intestines, is a small but wonderfully airy building reserved exclusively for the making of sausage skins. In this work it is impossible to prevent a very unpleasant odour, therefore it should be carried out in a separate and specially well-ventilated building. Consequently this department is kept scrupulously clean. The walls and the floor are of water-tight non-absorbent material. Thus they can be, and are, constantly washed with a deluge of water and therefore the odour does not adhere to them, particularly as the abundance of light and air further helps to dispel the sickly smell of the dried gut.

Such are some of the most striking features of this recently built and model abattoir. But it will be said that though all this is admirable the cost is likely to prove prohibitive. Such, fortunately, is not the case. The butchers have to pay to the municipality 7 francs (*5s. 7d.*) to kill a bull or bullock, 4*s.* for a cow or heifer, 1*s.* 3*d.* for a calf, 8*d.* for a sheep, and 2*s.* for a pig. The last charge includes the cooking of the head and feet. Then there is another source of revenue—namely, £10 a year for a large cage and £6 a year for a cellar to keep sausage meat and other meat. Then, again, when there is a case of tæniasis and cysticercus, a larval form of tapeworm, the carcass need not be destroyed. It must be placed in the cold storage under lock and key and the key is kept by the director of the abattoir for three weeks. This procedure kills the larvæ and the meat can then be safely consumed. But for the cold storage it would have to be destroyed, so that the butcher is pleased to pay the necessary rent and thus to escape a consider- able loss. Nevertheless the cold-storage department does not pay and for the simple reason that it is just double the size that is at present required. If all the space available was utilised it would pay. It was, however, thought best to make provision for the probable increase of the population. Actually the receipts cover the working ex- penses but there is nothing remaining over to create a sinking fund. With regard to the slaughter-house the financial position is satisfactory, for the receipts suffice to pay 4½ per cent. interest on the loan capital and 2 per cent. to the sinking or amortisation fund.

Therefore it will be seen that it is possible to build perfectly satisfactory public slaughter-houses without involving the taxpayer in unremunerative enterprises. On the contrary a valuable public property is created; at the same time a great guarantee is provided in regard to the wholesomeness of the food-supply and thus the outlay is rendered doubly remunerative.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Ingleby Lectures.

IN his second lecture Dr. Thomas Wilson proceeded to consider the diagnosis and treatment of inflammatory conditions of the uterine appendages, basing his remarks, as in the previous lecture, on a series of 260 cases which had been under his direct supervision. The origin of the inflammatory condition in this series of cases was directly connected with the puerperal state in considerably more than half the patients (160), and in a general manner as regards the period of infection the cases were divisible into an early and a late group, the infection occurring in the latter group after the lapse of two or three weeks. Dr. Wilson emphasised the necessity for diagnostic purposes not only of a thorough local examination but also of a careful consideration of all the bodily functions, and he mentioned the main symptoms and physical signs on which reliance could be placed. In association with the cases of serous inflammation he noted a distinct tendency to localisation of the effused fluid, and in this condition he thought that the patient's aspect was devoid of the anxious, drawn, and toxic look so frequently seen in septic cases, whilst the swelling itself was, as a rule, elastic. He deprecated too great reliance upon leucocytosis as being diagnostic of pus formation, well-marked leucocytosis occurring in purely serous cases. With regard to the treatment of serous collections he advocated incision and drainage, rapid improvement being thereby attained, and he recommended the opening and draining of all collections of pus but emphatically deprecated more radical treatment. Dr. Wilson discussed gonorrhœal inflammations at some length and advocated in chronic and subacute cases the use of hot douches, glycerine tampons, and electric heat baths. In the concluding part of his lecture he expressed the hope that newer methods of treatment would be initiated with the object of stopping disease at the outset and that then, as a consequence, the more or less barbarous methods now adopted would become matters of history.

The Birmingham Medical Benevolent Society.

The object of this society is to aid medical men and their families who have fallen into necessitous circumstances. It is at present providing 23 annuities and it has invested funds to the amount of £15,940. The area of its operations extends for 100 miles round Birmingham and, as Sir James Sawyer points out, there are in the area about 4000 medical men, of whom less than 400 are members of the society. This is much to be regretted, for the design of the society, mutual help, should appeal strongly to a class of men many of whom are liable to be cast out of active work at any moment by many causes. At the recent annual meeting Dr. E. Rickards resigned his position as president at the end of his term of office and Dr. E. B. Whitcombe was appointed in his place. Mr. W. F. Haslam and Mr. F. Marsh were appointed treasurers in the place of Sir Thomas F. Chavasse, Mr. Haslam having first resigned the secretaryship which he had held for a period of 16 years. Dr. J. E. H. Sawyer was appointed secretary, and Sir Thomas Chavasse, Dr. E. Malins, and Mr. A. C. Underwood were elected to three vacant positions on the court of directors.

The Birmingham Lying-in Charity.

The governors of the charity are establishing a new maternity and training hospital with the object of meeting a long-felt want in this city in which, as the chairman and treasurer state in their appeal, there has hitherto been "no institution for the reception of serious maternity cases except in connexion with the Poor-law." The total sum needed for land and buildings is £15,500 and for additional income £800 a year. Towards the former £13,400 have already been collected and the chairman and treasurer now appeal for more, especially to the women of Birmingham, to provide the £2100 for buildings and the necessary annual income. It is to be hoped that the appeal will receive the answer which it deserves and in that case more than the necessary sum will be forthcoming, for the suffering which it is sought to alleviate has the sympathy of all peoples and all classes.

The Employment of Specialists in Workhouse Infirmaries.

It is quite obvious that the medical officer of a workhouse cannot be expected to be capable of dealing in the most satisfactory manner with all cases which require operative interference, yet until quite recently it has apparently been the custom at Aston, as at many other places, that the medical officer should do all that has to be done or himself pay a specialist to do any operations which he does not feel himself competent to undertake. It seems, however, that at Aston this custom has gone on rather from want of knowledge than from design and when the matter was brought to the notice of the guardians at a recent meeting they took the proper step and authorised the employment of a specialist in all cases in which the medical officer desired help. Their action can be cordially recommended to all boards of guardians who have not yet taken proper action in this matter.

Suggested Compulsory Notification of Consumption.

At a recent meeting of the Yardley district council it was proposed that the council should express its conviction that pulmonary tuberculosis should be included amongst the compulsorily notifiable diseases. The medical officer of health was not prepared to support the motion; nevertheless it was carried by a vote of 16 to 1, and it was decided that a copy of the resolution should be sent to the Local Government Board. There is but little probability that the wish of the Yardley council will be gratified for some time to come but the action which it has taken may be welcomed as a sign that the infective character of the disease is becoming better understood, for as the knowledge of the danger spreads the task of medical men who have to deal with the sufferers and their friends will be considerably lightened, whilst more care will be taken to deal effectively with the sputum, with the result that much trouble and many lives will be saved.

Food for School Children.

The education committee has had the matter of providing meals for children under its consideration for some time and it appears from the evidence which it has gathered that something must be done. The voluntary agencies have ceased work and the number of meals provided by the guardians has fallen considerably below that which is well known to be necessary. There are 98,000 children on the registers of the public elementary schools and it is estimated that at least 4500 of them need food before the opening of the schools each morning. It is proposed to spend £2000 per year out of the rates for the purpose of providing breakfasts for these children and to this there can be no objection, for the children must not be allowed to suffer; but it is to be hoped that the authorities will not permit parents who have the necessary means to shirk their personal obligations.

Bequests to Wolverhampton Hospitals.

By the will of the late Miss Perry of Wergs Hall, near Wolverhampton, a large sum of money is bequeathed to the hospitals of Wolverhampton. The Wolverhampton General Hospital, the Women's Hospital, and the Queen Victoria Nursing Institution will each receive £5000, the Eye Infirmary £3000, and the Blind Institute £2000.

May 28th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Port Sanitary Authority and the Dangers of Anthrax; Medical Inspection of Emigrants.

IN the annual report of the medical officer of health to the port sanitary authority the statement appears that the constant recurrence of cases of anthrax amongst labourers and others working cargoes on ships or carting material into the city gave rise to some anxiety, and the matter was investigated by the assistant port medical officer. It was ascertained that during the three years ending December, 1906, no less than 21 cases, mostly of dock labourers, had come to the knowledge of the department; all of them, with one exception, were cases of the external form of anthrax—namely, malignant pustule. 14 of the cases ended fatally. Much has been done by the officials of the Home Office and the Liverpool port sanitary authority to spread a rudimentary knowledge of the first symptoms of the disease among dock labourers and others; they also recommend the wearing of gloves, persal cleanliness, and early attention to treatment, and advise labourers with cuts or scratches on the hands, face, or neck to avoid handling those products which cannot be disinfected without serious danger to the material. Dr. E. W. Hope states that anthrax ought to be placed in Liverpool amongst the compulsorily notifiable diseases under the Infectious Disease (Notification) Act, 1889. During the year 1906 there were seven cases reported amongst dock labourers handling dry hides and skins from various parts of the world. The medical inspection of emigrants on board the outward-bound steamers is carried on by Mr. J. de Vere Hill and Dr. J. R. Stocker, the medical officers appointed by the Board of Trade. Emigrants showing symptoms of illness, or coming from localities where infection is rife, are liable to be rejected. One of the port sanitary inspectors is present at these Board of Trade clearances. There were 407 inspections during the year 1906 and 111 persons (mostly children) were rejected on account of disease of an infectious nature, or because of being under suspicion of developing such. These persons were taken charge of by the inspector who made arrangements for their removal, if necessary, to hospital. The constant stream of emigration westward to Canada and the United States of America from all parts of the continent of Europe and the British Isles finds in the port of Liverpool its main and natural outlet. This increased passenger traffic brings with it increased risks of imported disease.

Home for Epileptic Children at Maghull.

In view of the great need for further provision for the care and treatment of epileptic children the committee of the Home for Epileptics at Maghull has decided to erect a special building for boys and girls, the estimated cost of which, with furniture, will be £8000. So far £3255 have been promised, Miss Chilton (lady superintendent of the home), heading the list with a contribution of £800.

Hospital Saturday Collection.

The thirty-seventh annual collection on behalf of the medical charities of Liverpool was made in the workshops, offices, and warehouses of the city on Saturday, May 18th. Last year's total was £9142 and special efforts were made on this occasion to raise £10,000. The movement initiated last year by Mr. W. P. Hartley and Alderman L. S. Cohen whereby ten ladies and gentlemen each promised to add 10 per cent. to any increase which might take place in the Saturday and Sunday funds will continue to apply to this year's receipts, and inasmuch as the Hospital Sunday collection shows a substantial increase over that of 1906 it is hoped that the medical charities will be materially benefited as a result of the generous offer. The ladies' street collection will take place on Saturday, June 8th.

May 28th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Institution of Founders' Day at Queen Margaret College, Glasgow.

AT the institution of Founders' Day, which was held on May 23rd, a large number of students, past and present, assembled at Queen Margaret College, which is the section of the University of Glasgow devoted to the education of women. Miss Galloway, LL.D., gave an interesting account of the rise and progress of the higher education of women movement in Glasgow. In the course of her remarks she spoke of the splendid work done by the late Mrs. Campbell, LL.D., of Tullichewan. Mrs. Campbell was the last of the founders and it was felt that something should be done to perpetuate the memory of the great services rendered to Queen Margaret College by Mrs. Campbell, Mrs. Elder, the donor of the College buildings, and Professor John Young, the founder of the medical school. Miss Galloway accordingly proposed a motion to the effect that an annual meeting of present and past students of Queen Margaret

College and Gilmorehill should be held in May. She further proposed that this meeting should be called Founders' Day. Besides commemorating those who had gone before Founders' Day would do much to keep together past students and to unite all more closely together. Miss Galloway stated that so long as she remained at Queen Margaret's she would give the annual "At Home" and she expressed the hope that Founders' Day would thereafter be kept up by the Students' Union and Graduates' Association. The motion was adopted and it was resolved to make Founders' Day an annual event.

"Fresh Air Fortnight" Scheme in Scotland.

To those interested in the physical well-being of the young children in our large cities the report recently published by the Fresh Air Fund Committee should cause considerable gratification. In a list published of the towns now covered by the Fresh Air Fund Aberdeen is represented by 3000 children, Dundee by 3000 children, Edinburgh by 4000 children, and Glasgow by 6000 children. A noteworthy feature of the report is that there are no expenses of management in connexion with the fund. Every penny subscribed goes to the children in food or fares.

Sewage Purification Works in Scotland.

It is interesting to note in connexion with the sewage purification scheme for Dumbarton that 18 Scotch burghs have bacteriological systems of sewage purification already in operation. In seven cases systems are being laid down and in the case of 14 burghs schemes are under consideration.

Cerebro-spinal Meningitis.

Another death from this disease took place in Dundee during the past week. The victim was a young man aged 25 years. This is the first adult who has succumbed from the disease in Dundee. Two suspected cases of cerebro-spinal fever have been removed to the Forfar county isolation hospital.

Aberdeen University Anatomical and Anthropological Society.

At a meeting of this society held at Marischal College last week Professor R. W. Reid conducted the members round the new anthropometrical museum and gave an excellent description of the various sections, describing more minutely certain articles which were especially interesting for their local associations or extreme rarity. Afterwards Dr. Moir demonstrated a number of specimens from West Africa.

Aberdeen and Small-pox.

Since March, 1904, no cases of small-pox have occurred in Aberdeen till the past month, when the steam trawler *Machoda* arrived from Lisbon with a crew, mainly Portuguese, one of whom was suffering from the disease. The patient, who was removed to the city hospital, suffered from a comparatively mild attack of small-pox and has made an excellent recovery. No further cases have arisen among the crew or among persons in contact with them.

May 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Post-graduate Classes in Dublin.

THE syllabus of lectures and demonstrations in connexion with the School of Physic of Trinity College has appeared and differs little from former editions. This course has during the last three years proved very comprehensive, effective, and popular. It has been largely attended by medical men from the country. It will begin on June 17th and will terminate in three weeks—an arrangement which suits the practitioner from the country who cannot leave his duties for any long period. The medical school of the Catholic University in connexion with the Mater Misericordiæ Hospital, which is the largest hospital in Ireland giving clinical teaching, advertises a post-graduate course to commence on June 10th and another—an autumn course—on Sept. 16th. Each course will extend over a period of three weeks. The registrar of the medical school, Cecilia-street, Dublin, will furnish any particulars of these courses. The Royal College of Surgeons in Ireland will arrange also for two courses of lectures and demonstrations, the first to begin on June 10th and the second on Sept. 23rd. In addition to the usual subjects of instruction practical demonstration of operations on the cadaver will be included. Each course will occupy three weeks. The inclusive fee for each of the above-mentioned courses is 5 guineas.

Royal Medical Benevolent Fund Society of Ireland.

The central committee of this society passed the following resolution at their last meeting:—

> The central committee of the Royal Medical Benevolent Fund Society of Ireland desire to express to Dr. Richard Purdon of Belfast their high appreciation of the valuable services he has rendered to the society in the capacity of honorary secretary of the Belfast branch for ten years, and have learned with regret of his resignation of this position.

Health of Belfast.

At a meeting of the public health committee held on May 23rd it was reported that 24 cases of cerebro-spinal fever had been notified during the week as compared with 29 in the previous week. It is said that the type of the disease is not so severe now as in the early cases. The total number of cases notified in Belfast up to May 23rd is 445, with 316 deaths. Three deaths have occurred in Lurgan workhouse from the disease, the last being on May 23rd. There is at present an epidemic of measles in the north portion of the city and it has been found necessary to close one of the schools. It was also reported that proposals would be submitted next week by which the Forster Green Hospital would supply 25 beds for consumptives. The subcommittee appointed for the purpose recommends fortnightly cleansing of ashpits but has not yet decided on the adoption of ashbins, and all the rent agents in the city have been summoned to meet the committee to discuss the question.

Health Prosecutions in Belfast.

The Belfast city corporation has been showing considerable activity in prosecuting offenders for violation of the Public Health Acts in connexion with milk (exposing it for sale in unwashed vessels and allowing rubbish to be conveyed in milk-carts), for keeping pigs within 15 feet of a dwelling-house, and for not taking down houses in a dangerous condition. This action of the city council, though belated, is to be commended; it is entirely due to the revelations brought out at the Health Commission, which have compelled, through the force of public opinion, the city council to put in force its Acts. In the past the excuse was too often put forward that it had not power. Its action now supports the view of the Local Government Board that it had ample power under its sanitary Acts if it would only put them in force.

Asylum Accommodation in Belfast.

It is clear from a report presented to the finance committee of the Belfast city council on May 27th that the time has arrived when it will be necessary to erect further villas and administrative buildings at Purdysburn city asylum where at present there is accommodation for 400 patients. At the Grosvenor-road institution (the original asylum) there are still 680 inmates and at the Ballymena annexe 62, and to provide room for these additional 750 patients would cost about £75,000, and to build administrative buildings (hospital, churches, recreation hall, workshops, farm buildings, &c.) a sum of £35,000 would be required—that is, £110,000 in all. This most important question was postponed for further discussion.

May 28th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Syphilitic Nephritis.

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At a recent meeting of the Society of Biology M. Levi spoke of the action of the thyroid gland upon the hairy system. Pathology affords numerous examples of this as in myxœdema, whether spontaneous or acquired by operation, in both of which conditions the hair falls out, or in cases of hypothyroidia when premature greyness occurs. He mentioned the case of a stunted (*arriéré*) child suffering from hypothyroidia whose hair was quite white. Thyroid insufficiency again shows itself in the falling of hair during pregnancy, during general infections, and during the second period of syphilis. In this last condition falling of the hairs at the extremities of the eyebrows is a common symptom.

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Obituary.

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At a meeting of the Hospitals Medical Society held on May 24th M. Apert mentioned the case of a patient the subject of hereditary syphilis. He had always been a sickly child and at the age of 12 years his growth stopped completely. Moreover, his weight began to decline. When he was 14 years of age thyroid treatment was begun, with the result that the child, who for two years had remained absolutely stationary, rapidly made up for lost time. He is now 16 years of age, appears quite normal, and was recently accepted for military service.

May 27th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Forty Families Poisoned by "Preserved" Tunny.

THE Tuscan press, professional and lay, has been much exercised by the wholesale poisoning (fortunately without fatal consequences) of some 40 families at Figline Valdarno after the consumption of "preserved" tunny. Grave gastric and intestinal trouble was the symptom in each case and the local sanitary authority had no difficulty in tracing it to the ingestion of that favourite edible among the Italian *bourgeoisie*—tunny fish reduced to paste and preserved in tins. The examination by the said authority was confirmed by three experts commissioned from headquarters, who found that the fish had been "badly prepared," and that the consignment consumed at Figline Valdarno especially was charged with *microbes other than "benevolent."* Every shop where the article was on sale had forthwith to give it up to the authorities, while the Spanish firm from which it had been imported was promptly advised of the *quality* of its wares. As I have said, "preserved" tunny is in much favour as food with the Italian lower middle class and is often to be had at pretentious restaurants, where, eaten in conjunction with "fagiolini" (*haricots verts*), it forms a piquant, even pleasant addition to the *menu*. Indeed, the English-speaking visitor is often tempted by the attractive look of the dish to make a trial of it and, finding it in Italian phrase "molto saporito," to make it the chief part of a noonday or evening repast. The "fagiolini" accompanying it, moreover, are oftener than not "preserved" in tins and deleterious in consequence, so that if eaten with bread which owes its seductive whiteness to alum, and washed down with "Chianti," the "prickly after-taste" of which, so pleasant at the time, is due to the same astringent, the adventurous and unsuspecting consumer is likely to find by subsequent experience that his meal has been somewhat of a chastened joy. However, *forewarned, forearmed*; and the systematic "boicottaggio" (boycotting) of tinned-foods on the part of the travelling public is beginning to reduce the consumption and the sale of such edibles (especially when the date of the tinning process is withheld) and to minimise the occurrence of such "avvelenamenti" (poisonings) as that reported officially from Figline Valdarno.

A "Civic Hospital" at Caprera.

The first centenary of the birth of Giuseppe Garibaldi will, on July 7th next, be celebrated all the world over wherever two or three Italians can *meet in the* name of "Italia Unita ed Indipendente." A special feature of the programme, now in course of completion for Italy, will be a pilgrimage to the island of Caprera, the sea-girt rock in the Straits of Bonifacio which the hero purchased out of his South American savings, to which he retired when "at bay," after the failure of this or that raid upon the temporal power and on which he died just a quarter of a century ago. That pilgrimage will consist of many thousands of visitors to his tomb, mainly of Italian, but also, to some extent, of English-speaking nationality. To commemorate this tribute to the "Manes" of the most unselfish of "liberators," his son and daughter-in-law (General Ricciotti and Madame Garibaldi) propose the dedication of a column suitably inscribed, and, more significant still, the erection of a "*Spedale Civico*" for the rehabilitation (presumably) of the convalescent among the "*classi meno agiate*" (less favoured classes). Nothing would have gratified the humane and tender-hearted hero more than such a hospital, devoted as he was in his declining period to public sanitation in its widest sense and to the physical well-being of the compatriots whom he had helped to *disenthrall*. His scheme for the reclamation of the Campagna and its restoration to the salubrity which it enjoyed under the Antonines was but one of the many proofs which he gave of this humanitarian spirit—a spirit which went out lovingly even to the lower animals, notably to the birds that are so ruthlessly shot down all over Italy. In his dying hours he found it (according to Madame Garibaldi) a pleasing distraction to watch from his pillow his little feathered favourites as they fluttered down on his window-sill, as if prescient of the departure of their protector. Henceforth, it seems, no wild birds will be killed in Caprera—a law in keeping with the all too tardy legislation by which the wholesale destruction of the feathered tribe is being arrested throughout Italy—not only to the restored amenity of the woodland but to the safeguarding of the root-crops so disastrously affected by the worm.

"Propaganda Sanitaria."

Such is the title of a new periodical to be published at Florence under the eminently capable direction of Professor Di Vestea, Professor Lustig, and Professor Sclavo, its *rédacteur-en-chef* being Professor Mercanti. Its object is to popularise the laws of health and to bring the "norme

College and Gilmorehill should be held in May. She further proposed that this meeting should be called Founders' Day. Besides commemorating those who had gone before Founders' Day would do much to keep together past students and to unite all more closely together. Miss Galloway stated that so long as she remained at Queen Margaret's she would give the annual "At Home" and she expressed the hope that Founders' Day would thereafter be kept up by the Students' Union and Graduates' Association. The motion was adopted and it was resolved to make Founders' Day an annual event.

"Fresh Air Fortnight" Scheme in Scotland.

To those interested in the physical well-being of the young children in our large cities the report recently published by the Fresh Air Fund Committee should cause considerable gratification. In a list published of the towns now covered by the Fresh Air Fund Aberdeen is represented by 3000 children, Dundee by 3000 children, Edinburgh by 4000 children, and Glasgow by 6000 children. A noteworthy feature of the report is that there are no expenses of management in connexion with the fund. Every penny subscribed goes to the children in food or fares.

Sewage Purification Works in Scotland.

It is interesting to note in connexion with the sewage purification scheme for Dumbarton that 18 Scotch burghs have bacteriological systems of sewage purification already in operation. In seven cases systems are being laid down and in the case of 14 burghs schemes are under consideration.

Cerebro-spinal Meningitis.

Another death from this disease took place in Dundee during the past week. The victim was a young man aged 25 years. This is the first adult who has succumbed from the disease in Dundee. Two suspected cases of cerebro-spinal fever have been removed to the Forfar county isolation hospital.

Aberdeen University Anatomical and Anthropological Society.

At a meeting of this society held at Marischal College last week Professor R. W. Reid conducted the members round the new anthropometrical museum and gave an excellent description of the various sections, describing more minutely certain articles which were especially interesting for their local associations or extreme rarity. Afterwards Dr. Moir demonstrated a number of specimens from West Africa.

Aberdeen and Small-pox.

Since March, 1904, no cases of small-pox have occurred in Aberdeen till the past month, when the steam trawler *Machoda* arrived from Lisbon with a crew, mainly Portuguese, one of whom was suffering from the disease. The patient, who was removed to the city hospital, suffered from a comparatively mild attack of small-pox and has made an excellent recovery. No further cases have arisen among the crew or among persons in contact with them.

May 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Post-graduate Classes in Dublin.

THE syllabus of lectures and demonstrations in connexion with the School of Physic of Trinity College has appeared and differs little from former editions. This course has during the last three years proved very comprehensive, effective, and popular. It has been largely attended by medical men from the country. It will begin on June 17th and will terminate in three weeks—an arrangement which suits the practitioner from the country who cannot leave his duties for any long period. The medical school of the Catholic University in connexion with the Mater Misericordiæ Hospital, which is the largest hospital in Ireland giving clinical teaching, advertises a post-graduate course to commence on June 10th and another—an autumn course—on Sept. 16th. Each course will extend over a period of three weeks. The registrar of the medical school, Cecilia-street, Dublin, will furnish any particulars of these courses. The Royal College of Surgeons in Ireland will arrange also for two courses of lectures and demonstrations, the first to begin on June 10th and the second on Sept. 23rd. In addition to the usual subjects of instruction practical demonstration of operations on the cadaver will be included. Each course will occupy three weeks. The inclusive fee for each of the above-mentioned courses is 5 guineas.

Royal Medical Benevolent Fund Society of Ireland.

The central committee of this society passed the following resolution at their last meeting:—

> The central committee of the Royal Medical Benevolent Fund Society of Ireland desire to express to Dr. Richard Purdon of Belfast their high appreciation of the valuable services he has rendered to the society in the capacity of honorary secretary of the Belfast branch for ten years, and have learned with regret of his resignation of this position.

Health of Belfast.

At a meeting of the public health committee held on May 23rd it was reported that 24 cases of cerebro-spinal fever had been notified during the week as compared with 29 in the previous week. It is said that the type of the disease is not so severe now as in the early cases. The total number of cases notified in Belfast up to May 23rd is 445, with 316 deaths. Three deaths have occurred in Lurgan workhouse from the disease, the last being on May 23rd. There is at present an epidemic of measles in the north portion of the city and it has been found necessary to close one of the schools. It was also reported that proposals would be submitted next week by which the Forster Green Hospital would supply 25 beds for consumptives. The sub-committee appointed for the purpose recommends fortnightly cleansing of ashpits but has not yet decided on the adoption of ashbins, and all the rent agents in the city have been summoned to meet the committee to discuss the question.

Health Prosecutions in Belfast.

The Belfast city corporation has been showing considerable activity in prosecuting offenders for violation of the Public Health Acts in connexion with milk (exposing it for sale in unwashed vessels and allowing rubbish to be conveyed in milk-carts), for keeping pigs within 15 feet of a dwelling-house, and for not taking down houses in a dangerous condition. This action of the city council, though belated, is to be commended; it is entirely due to the revelations brought out at the Health Commission, which have compelled, through the force of public opinion, the city council to put in force its Acts. In the past the excuse was too often put forward that it had not power. Its action now supports the view of the Local Government Board that it had ample power under its sanitary Acts if it would only put them in force.

Asylum Accommodation in Belfast.

It is clear from a report presented to the finance committee of the Belfast city council on May 27th that the time has arrived when it will be necessary to erect further villas and administrative buildings at Purdysburn city asylum where at present there is accommodation for 400 patients. At the Grosvenor-road institution (the original asylum) there are still 680 inmates and at the Ballymena annexe 62, and to provide room for these additional 750 patients would cost about £75,000, and to build administrative buildings (hospital, churches, recreation hall, workshops, farm buildings, &c.) a sum of £35,000 would be required—that is, £110,000 in all. This most important question was postponed for further discussion.

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May 25th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Cerebro spinal Meningitis.

THE local newspapers announce that the Chief Sanitary Municipal Council of Constantinople has found that several isolated cases of cerebro-spinal meningitis have occurred in different districts of the metropolis. Thus from the mortality returns for last week it is seen that out of the total of 288 deaths one died from scarlet fever, three from small-pox, three from enteric fever, 45 from tuberculous diseases, and four from cerebro-spinal meningitis. Precautions have been taken to prevent the spread of the disease.

Enteric Fever at Philippopolis.

From Philippopolis comes the news that an epidemic of enteric fever has broken out in that city. The epidemic seems to be of an alarming character, as it is reported that over 1000 people have been attacked in the course of a few days.

Pilgrimage Statistics.

The total of this year's pilgrims to Mecca and Medina was 281,100. Of this number 113,000 were Ottoman subjects, 12,000 were Bokhariotes, 4500 were Malays, 40,000 were Indians, 10,000 were Afghans, 16,000 were Russians, 15,000 were Persians, 13,000 were Soudanese, and 17,000 were Moroccans. The state of health of the pilgrims on the way to and from the holy cities of Islam has been very satisfactory, which is partly due to the more speedy transport and communications by means of the new Hedjaz railway.

Two Cases of Remarkable Longevity.

In the village of Biréli, near Anamore (vilayet Adana), there died last week a Mussulman, Khalil Codjaoglou by name, at the age of 115 years, the cause of death being a mere accident. He enjoyed good health to the very last. His youngest son was only 20 years old. Another case of longevity has occurred at Smyrna. This time it was a Greek named Frankaki who died when he was 108 years old. He is said to have had all his teeth, was never ill, and was to the last moment in full possession of his mental and physical faculties.

May 24th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Legal Position of Unqualified Medical Practitioners and Quack Medicines.

SOME of the abuses which are connected with quackery have been recently engaging the attention of the higher courts of justice, and in a judgment delivered not long ago the Supreme Court decided that for the conviction of a person charged with an offence of this description it was not necessary to prove that the treatment employed by him was detrimental to the patient; the mere fact that a person offered medical advice or undertook the medical treatment of a patient without being in possession of proper qualifications was sufficient to bring him under the power of the law. If he be convicted as a quack it must be proved that he received payment on more than one occasion for his medical work. The punishment was then much more severe. Several ordinances of the Ministry of the Interior have quite recently been published dealing with the sale of proprietary and other medicines of secret composition and announcing that the advertisement of remedies which are sold by pharmaceutical chemists and in the so-called Apotheke is allowed only under the restriction that such advertisements do not contain medical advice and recommendations from other than medical men, and that the statements made are not preposterous or misleading. Medicines, the composition of which has either not been disclosed to the Board of Health or has been intentionally misdescribed, must not be sold in these shops, even on the request of a qualified medical man. Another ordinance deals specially with electrical apparatus and so-called "cures." Quite a number of appliances are advertised in the Austrian newspapers under various high-sounding names, such as the "electro-vitalizer" and others of a like kind. The majority come from America but some come from England and some come from Germany. Nervous disorders and diseases of the ear are the class of cases mainly appealed to in the advertisements of the "cures." Acting on a suggestion made by the Austrian Antiquackery Society, the Minister of the Interior has forbidden the newspapers to accept these advertisements and has issued a warning to the public informing them of the fraudulent nature of such statements.

Puerperal Fever and its Treatment.

Dr. Latzko read recently before the Gesellschaft der Aerzte a paper on the Treatment of Puerperal Fever and put forward some new views relative to surgical operations on the abdomen and genital organs. He recommended active measures in regard to the peritonitis so often seen post partum and in regard to the parametritic process which he believed to be of the same nature as the periphlebitis of the uterine veins. The parametritis was therefore aptly called by him "phlegmasia alba dolens ligamenti lati." For this condition he operated by the vaginal route and if possible he extirpated the uterus, thus removing the cause of septic infection of the organism. He preferred supravaginal amputation to any other procedure in such cases. If diffuse peritonitis was present he opened the abdomen by means of a large incision and drained it, leaving it open for a few days until the condition of the secretion improved. In serious pyæmic affections of the pelvis, such as metrophlebitis, he opened the veins after double ligature and drained the vessel after removing the thrombosed masses in a way similar to that employed by otologists when dealing with thrombosis of the sinus of the internal jugular vein. In less urgent cases a trial of collargol innunctions and anti-streptococcic serum might be made. The results obtained with the latter in Dr. Chrobak's clinic were very favourable—even better than those of the operations performed by Dr. Latzko. In the clinic amongst 225 cases not treated with serum there were 27 deaths, whilst amongst 246 cases where the serum was used only 13 deaths occurred—i.e., a mortality of 5·28 per cent. During the last two years 55 patients suffering from peritonitis have been operated upon by Dr. Latzko. Of these 28 were cases of free diffuse inflammation and 27 were cases of circumscribed inflammation; of the former 28 patients 9 recovered and 19 died, while of the latter 27 patients 23 recovered and only 4 died. His results were therefore fairly favourable.

Removal of a Tumour of the Hypophysis Cerebri through the Nose.

An interesting account of one of the rarest operations was given by Professor Schloffer of Innsbruck at a recent meeting of the Medical Society. The patient was a man, aged 30 years, who was so weak that only a quick and not extensive operation could be attempted. The symptoms were constant headache, anæmia, bitemporal hemianopsia, and lately a very unusual symptom presented itself—namely, the rapid disappearance of all the hair on the body except a few hairs on the pubes and on the chin. Examination by x rays revealed the presence of a tumour of the hypophysis; the sella turcica was manifestly enlarged, being of about the size of a walnut, and its contents cast a shadow similar to that of the neighbouring brain tissue. The patient complained of unbearable pains in the head and neck, his sexual power was almost entirely lost, and he was prepared to undergo any operation which gave a prospect of relief. The first stage of the operation consisted in freeing the whole nose by the method of Bruns and turning it to the right side. All the turbinated bones were removed and the septum was excised, the resulting profuse hæmorrhage being checked by plugging. The inner wall of the left orbit was removed until the optic foramen was reached; the inner walls of the antrum of Highmore and the nasal process of the upper jaw were broken away without loss of blood. The ethmoidal sinus was then cleared out and the sphenoidal cavity was opened. By careful measurement it was ascertained that the operator had actually reached the sella turcica, for the difficulty lay in this, that it was essential for a good result to know whether the cavity exposed was really the sphenoidal cavity, diminished by the enlarged sella turcica, or whether the ethmoidal labyrinth was still present. An x-ray photograph showed the distance between the root of the nose and the sella turcica to be six centimetres but as x-ray photographs are usually enlarged copies of the original the actual distance was computed to be 5·3 centimetres, and at this depth, after perforating another lamina of bone, a bluish tumour was visible; it was very soft and friable, and although carefully removed parts of it were lost in the blood. The greatest part of the tumour (about four-fifths) was extirpated in this way, but the remainder could not be got at without damaging the dura mater, so it was left behind. A large quantity of cerebro-spinal fluid escaped at the end of the operation. The cavity in the sella turcica was plugged with gauze dipped in balsam of Peru, a similar gauze drain was packed on the base of the skull, and both drains were led out towards the nose, which was replaced and carefully fixed in position with sutures. The after-history was uneventful. For the first few days cerebro-spinal fluid came out at the tip of the nose every few minutes. The headache completely vanished. The drains remained *in situ* for nine days and were not renewed. Except for an attack of erysipelas no trouble intervened and recovery was complete by the fifth week after the operation. The hemianopsia was the same as before, but the patient could enjoy life again. A curious fact was that his hair began to grow again everywhere; the explanation was not easy, perhaps the hypertrophy of the hypophysis produced an over-action of the organ, which was probably detrimental to the growth of hair. The examination of the removed parts proved them to be simply an enlarged hypophysis. Notable features of the operation were the unexpected ease with which the gland was reached, the small amount of hæmorrhage in the latter stages, and the absence of post-operative meningitis. No more than 20 cases of operation for such conditions are at present known and this is supposed to be the only successful one.

May 27th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Epileptic Colony.

The first epileptic colony in Australia was opened by Lady Talbot just before she left Victoria. It is situated at Clayton on a block of 165 acres of fertile land presented by Mr. Mason. Accommodation will be afforded for 70 patients, at a cost of about £7000. It is intended to make the institution so far as possible self-supporting from the start, using the land for farming and raising bees, silk, and flowers.

Hospital Matters.

During a recent inquest on the body of a child who had previously attended at the Melbourne Children's Hospital it was disclosed that it was the custom of the resident medical staff to give death certificates on information obtained from the hospital records. The coroner said it was a practice that should be stopped.—At a recent meeting of the committee of the Western Suburbs Cottage Hospital (Sydney) attention was drawn to several cases which were admitted to the hospital on the recommendation of outside medical practitioners, though the patients were well able to afford private treatment. A resolution was passed asking the coöperation of residents in seeing that only deserving cases among the poor of the district are sent in for treatment.—Tenders have been accepted for the erection of a consumption block at the Hospital for Incurables, Waterfall, New South Wales.

Pollution of Sydney Water-supply.

The Sydney Water and Sewage Board has endeavoured to get the public works department to take measures to prevent pollution of the Sydney water-supply from the Cataract River, but the department is not inclined to do anything as the Government analyst was of opinion that the water was not so bad as Dr. E. S. Stokes, the board's medical officer, stated. Dr. Stokes never said that it was injurious to health but that it contained a large amount of organic matter. The board passed a resolution at its last meeting earnestly requesting the Minister of Public Works to allow the board to clear away as much as possible of the vegetable matter in the catchment area.

Nuisance from George's River, Liverpool.

Dr. W. G. Armstrong, medical officer of health of the metropolitan district, New South Wales, has furnished a report on the alleged nuisance at Liverpool caused by pollution of the George's River. He finds that the river is grossly polluted, mainly from wool-washing, and that wastes therefrom should be satisfactorily purified before they are admitted to the river and that wool-washing and fell-mongering should be proclaimed as noxious trades.

Aid to Friendly Societies.

The Premier of New South Wales announced at a demonstration given by the Grand Lodge of the Independent Order of Oddfellows on April 9th that the Government proposed to aid the friendly societies by giving—

1. One-third of the cost after 12 months' sickness of all members under the age of 65 years, or being women, under the age of 60.
2. To pay the whole cost of sick pay for all members over the age of 65 in the case of men, and over the age of 60 in the case of women. The cost to the State not to exceed 3*s.* 4*d.* per week under 65, nor 5*s.* per week over 65—

subject to the following conditions:—

(*a*) That sickness fund is proved solvent by valuation and that a pro-rata reduction be made on certificate of registrar of friendly societies, according to degree of insolvency; (*b*) where no previous valuation and degree of insolvency unascertained, half rates payable until first valuation.

Medical attendance cost to be paid for all members above 65 (females 60). Trustees of society to pay subvention into proper funds and to render adjustment vouchers to Government. Registrar of friendly societies to tabulate and certify as to sickness. Payment conditioned on due observance of requirements under Friendly Societies Acts. Friendly societies may provide in their rules for raising moneys for purchase of annuity grants for their members. Any surplus appearing on valuation of friendly society may be devoted to the purchase of Government annuity for its members.

Action against a Dentist.

A dentist was the defendant in a recent action in Sydney to recover £100 compensation for injuries alleged to have been received by the plaintiff through negligence of the defendant in extracting her teeth. The plaintiff had a number of teeth extracted under an anæsthetic. She subsequently became very ill with lung trouble and finally coughed up a tooth four months afterwards. The judge said the evidence clearly showed that the plaintiff's illness was due to the defendant's action and negligence and gave a verdict for £75.

April 23rd.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—A smoking concert in connexion with this association will be held at the Café Monico, Piccadilly Circus, W., on Thursday evening next, June 6th, at 9 P.M. Members can obtain tickets from Mr. E. Canny Ryall, 77, Harley-street, London, W.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held on May 17th at Caxton House, Westminster, Dr. F. H. Champneys being in the chair. The Board considered charges as stated after their names against the following midwives whose names were ordered to be erased. Sarah Scott, that at a confinement she did not send for a medical man, the patient being ill with a high temperature. Mary Broxson, that at a confinement she did not send for a medical man on the occurrence of rigor. Ellen Lang, that at a confinement the perineum being ruptured she did not send for a medical man. Mary Lewin, that at a confinement she did not send for a medical man, the patient suffering from puerperal fever. Emma Applegate, that at a confinement the child when born being apparently in a dying condition she did not send for a medical man. Bridget Duffy, that at a confinement, the child being stillborn and no registered medical practitioner being in attendance, she failed to notify the occurrence to the local supervising authority. Mary Elliott, that at a confinement she was intoxicated. Mary Dunn, that she had been convicted of keeping a disorderly house. Martha Ann Laurance, that at a confinement she was guilty of negligence and misconduct. Elizabeth Jane Brennand, Charlotte Hales, and Emma Page, that they persistently refused to provide themselves with the appliances and antiseptics required by Rule E, 2. After charges had been considered against the following midwives they were censured by the Board: Ellen Pomfret, Catherine Johnson Waugh, and Louisa Wood. After charges against the following midwives had been considered they were cautioned by the Board: Hannah Rhodes, Mary Ann Smith, and Mary Upton.

Obituary.

SIR JOSEPH FAYRER, BART., K.C.S.I., M.D. EDIN., LL.D. EDIN. AND ST. ANDREWS, F.R.C.P. LOND., F.R.C.S. ENG. AND EDIN., F.R.S. LOND. AND EDIN., &C.,

PHYSICIAN-EXTRAORDINARY TO THE KING.

IT is with very great regret that the profession at large, the Indian Medical Service, and a very large circle of personal friends have heard of the passing away of Sir Joseph Fayrer. He died at his residence, Belfield, Falmouth, on Tuesday, May 21st, at the advanced age of 82 years.

Joseph Fayrer was the second son of Robert John Fayrer and Agnes, daughter of Richard Wilkinson, a Lancashire gentleman. His father, who attained to the rank of commander in the Royal Navy, subsequently commanded an Indiaman, for many years sailed in ships of that class, and was one of the pioneers of ocean steam navigation. The distinguished subject of our memoir was born on Dec. 6th, 1824, at Plymouth, where his father and mother were on a visit after one of the former's voyages back from India. He was educated under the Rev. R. Wallace at Dalrymple in Ayrshire, under private tutors, and at a private school at Liverpool. In 1840 he began the study of engineering, but, finding it too mechanical, at the age of 17 years was appointed a midshipman to the *Thames*, one of the fine fleet of steamers of the newly inaugurated West Indian Mail Steam-Packet Service, and in her he went to the West Indies, to Mexico, and to South America. He subsequently sailed with his father on H.M.S. *Tenedos* to Bermuda. On arrival the vessel was detained there as a receptacle for prisoners, as Bermuda was then a convict station. While at Bermuda his future career was determined during an outbreak of yellow fever. Becoming strongly impressed with the importance of the medical profession and seeing how highly it was valued and how great an influence its members exercised for good he determined to study to enter it. He first attended the practice of the naval hospital at Bermuda and in August, 1844, it was decided he should go to London to become a pupil at Charing Cross Hospital. He duly entered the school and registered as a student at the Royal College of Surgeons of England in the winter session of 1844, at the end of which he was awarded a scholarship at his school of £15 a year for two years. At Charing Cross his chief friends among the students were W. G. Hunter, subsequently, as Sir W. Guyon Hunter, surgeon-general of the Bombay army, and T. H. Huxley, the great Professor Huxley. His interest in his hospital never abated and 34 years later he was appointed consulting physician to the hospital and made a life governor. At the end of his second year as a student he was appointed house surgeon at the Westminster Ophthalmic Hospital under Guthrie and Hancock and in July, 1847, passed his examination at the Royal College of Surgeons and was duly enrolled. He became F.R.C.S. Edin. in 1858, M.D. Edin. in 1859, F.R.C.P. Lond. in 1872, and F.R.C.S. Eng. in 1878.

On August 4th, 1847, Sir William Burnett, the Naval Director-General, procured him a commission to H.M.S. *Victory* for service at Haslar Hospital, and accordingly he went to Portsmouth and was placed on the books of the *Victory*, where among his comrades was Dr. Andrew Clark, afterwards the President of the Royal College of Physicians of London. After a few weeks of ordinary duty, in October he was permitted to resign his commission temporarily in order that he might accompany Lord Mount-Edgcumbe on his travels. With Lord and Lady Mount-Edgcumbe he travelled through France, Germany, and Italy. While with them at Palermo political troubles commenced—the Sicilians were in opposition to the Neapolitan Government and before long broke out into open revolution. Together with his friend, Dr. Valentine Mott, he attended to, and did all he could for, the wounded, and obtained his first experience of gunshot wounds. While at Rome in January, 1849, he underwent the examination and received the degree of M.D. Returning to England he held for a few months an appointment in the Ordnance Medical Department, an appointment as assistant surgeon in Bengal, and on June 29th, 1850, he left Gravesend in the *Camperdown*, an East Indiaman, for Calcutta in medical charge of recruits for regiments in India. He arrived at Fort William on Oct. 9th and commenced his Indian service. His first appointment was to the civil station of Cherra Poonjee, whence he was soon ordered to Dacca, which at that time was extremely unhealthy, to take over medical charge of the 74th Bengal Native Infantry. He found on arrival that, with the exception of a few men for orderly work, all the sepoys at headquarters were in hospital; he gained at this time his first experience of cholera.

In 1852 he was selected as one of the field assistant surgeons to accompany the Bengal Division of the Burmah force. When it was decided to send a force up the river on the way to Rangoon to destroy the Thilawa stockade he asked permission to accompany the troops and was ordered to join the war steamer *Phlegethon*; he subsequently landed to escalade the stockade and was present at the spiking of the guns and destruction of the stockade by fire. At the taking of Rangoon, having obtained permission, he landed and formed a field hospital in a poongie-house, near to the White House picket, which was of the greatest service not only for the wounded but to the sufferers from sunstroke. After the city was in our possession, in addition to his other duties, he had those of civil surgeon of Rangoon assigned to him. For his services in Burmah he was transferred to serve under the Indian Foreign Office and was appointed residency surgeon at Lucknow. The offer of the appointment was made to him in an autograph letter signed "Dalhousie," in which the Governor-General explained that he had kept it vacant as the best medical appointment in his gift to bestow it upon the assistant surgeon who should be found to have rendered the most approved services during the war with Burmah. His designation was "Residency Surgeon, Superintendent of the King's Hospital, and Post-master." Colonel Sleeman was at the time the Resident but towards the end of 1854 he fell ill and Colonel Outram assumed the duties. Shortly before this change Fayrer was appointed an Honorary Assistant Resident and thus had political combined with his other duties. The time had come when effect was to be given to one of the articles of Lord Dalhousie's creed, "the extinction of independent provinces within our dominion." The Oudh Government had been so corrupt, despite all warnings, as to have forfeited all claim to further consideration, and Outram was sent to bring this state of things to a conclusion. Early in 1856 the annexation of Oudh, the last important act of Lord Dalhousie's administration, was carried out in detail by Lord Canning's orders, and Outram, anxious to provide for the old Residency officers, recommended that Dr. Fayrer should be made Deputy Commissioner of Lucknow, but the Governor-General wrote suggesting that as Dr. Fayrer had done well in his profession it was a pity to give it up, and that if he chose to continue in his present office he would guarantee his allowances and privileges. He accepted the suggestion and selected the designation of "Civil Surgeon of Lucknow and Superintendent of all charitable institutions." His new appointment dated from March 20th, 1856. During the succeeding months he reorganised the arrangements of the post-office which was then extended over the whole province.

Then came the Indian Mutiny and he was one of the principal actors during those dark days in the Lucknow Residency. He was one of the foremost men of action during the siege and defence from June 30th to the time of the first relief by Havelock and Outram on Sept. 25th, 1857, and during the continuation of the siege till the final relief by Sir Colin Campbell on Nov. 17th, 1857. After the evacuation of the Residency he with others made a forced march to Cawnpore to relieve Wyndham, who was engaged with the Gwalior rebels, and then proceeded to Allahabad where they sojourned in the fort. During the siege of Lucknow, when Sir Henry Lawrence proposed to remove the ladies and children to the Mutchi Bhowan, thinking they would be safer, Dr. Fayrer opposed the suggestion on hygienic grounds in the strongest terms and it soon became known that the last stand was to be made in the Residency. On the eventful day, July 2nd, when Sir Henry Lawrence was mortally wounded, Dr. Fayrer was one of those who tenderly carried his friend to the doctor's bungalow, where he was placed on a bed in the deep front verandah, from which he made an affecting leave-taking, adjuring his staff never to surrender or to treat with the enemy, and to do everything possible to protect the women and children, and, speaking most humbly of himself and all that he had done, he expressed a desire that the only epitaph on his tomb should be, "Here lies Henry Lawrence who tried to do his duty." The notes made by Dr. Fayrer during the siege are very circumstantial

SIR JOSEPH FAYRER, BART., K.C.S.I., M.D., LL.D. EDIN. AND ST. ANDREWS, F.R.C.P. LOND., F.R.C.S. ENG. AND EDIN., F.R.S. LOND. AND EDIN., &c.

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and thrilling and extracts from them are freely quoted in his "Recollections." During the siege Dr. Fayrer received a severe contusion of the leg from a spent bullet and his eldest son, then an infant, was slightly wounded in the leg by a fragment of shell.

On the suppression of the mutiny Fayrer embarked with his family in March, 1858, from Calcutta, and during his furlough in England studied at the University of Edinburgh with a view to taking the M.D.; this he did after a special examination in March, 1859. In the January of the same year he was elected a Fellow of the Royal Society of Edinburgh. Early in 1859 a vacancy having occurred in the chair of surgery in the Medical College, Calcutta, by the resignation of Professor O'Shaughnessy, the post was offered to Dr. Fayrer while still on furlough and was duly accepted. He returned to India, landed on April 29th, 1859, and at the age of 34 years took up his appointment as professor of surgery in the Medical College and first surgeon to the College Hospital, and thus commenced the second part of his Indian career. In the following year he was given the additional medical charges of the Lower Military Orphan School and of the Mysore princes. In January, 1861, he was elected a member of the Council of the Asiatic Society of Bengal and shortly afterwards a Fellow of the University of Calcutta. In 1863 he was elected a member of the Senate of the University and President of the Faculty of Medicine. In January, 1867, he was appointed President of the Asiatic Society and delivered an address on taking his seat. In this capacity he wrote to the Government recommending that a scientific mission should be sent to Abyssinia and to the Nicobar Islands and proposed a scheme for a zoological society and gardens in Calcutta, which was recommended to be carried out.

On Lord Mayo's arrival on Jan. 12th, 1869, he invited Dr. Fayrer to become his surgeon, which offer he accepted for as long a time as the Viceroy should remain in Calcutta. He at that time submitted a long memorandum upon the native hospital for Lord Mayo's information and was frequently consulted by him on all medical matters connected with the service or the local hospitals. It was about this time that Dr. Fayrer was promoted to the rank of surgeon-major and was appointed consulting surgeon to the Howrah General Hospital. On Dec. 29th, 1869, at a Chapter of the Star of India held at Calcutta, in which the Duke of Edinburgh was invested as a Grand Commander of the Star of India, Dr. Fayrer rode with the other Companions of the Order, having been made a Companion the previous year. On Jan. 1st, 1870, the Viceroy invited him to accompany the Duke of Edinburgh in his travels through the North-west of India. His Royal Highness subsequently made him his physician in ordinary. In the March of the same year he was made honorary physician to the Queen. At this time he was investigating the nature of the poisons of the ophiophagus elaps, the different species of bungarus, and of the salt-water snakes. The results of his experiments were sent home in the rough to his friend Dr. Francis C. Webb, in London, who put them into the form of a book, which was afterwards published by the Government. An acknowledgment of Dr. Webb's work is made in the introduction to the volume, which is entitled the "Thanatophidia of India." This great work, which was dedicated to the ill-fated Viceroy, was the result of his extensive experimental study into the action of snake-poison. Dr. Fayrer's attention had long been fixed on this matter owing to the appalling mortality amongst natives from this cause. The book was magnificently produced and illustrated by beautiful plates, mostly drawn by native members of the Calcutta School of Art. Dr. Fayrer also devoted much attention to the means of checking the loss of native life and property from the ravages of carnivorous animals.

Early in 1873, a year after Lord Mayo's assassination in the Andaman Islands, Dr. Fayrer prepared for a long absence from India, his health having suffered from the climate. During his furlough he was elected a Fellow of the Royal College of Physicians of London and with Lauder Brunton began a series of investigations into the nature and action of snake-poison. In the same year he was appointed a member of the Medical Board at the India Office, of which Sir Ranald Martin was the president. In November, 1873 Sir Ranald Martin sent in his resignation as president and Dr. Fayrer was offered the appointment by Lord Salisbury, Secretary of State for India. He retired from the active list of the Indian army as a deputy surgeon-general, with a pension of £1 a day, and on Dec. 8th took his seat as president. He was also appointed a member of the Senate of the Army Medical School and a little later a member of the Army Sanitary Committee. He was gazetted a surgeon-general with local rank, which rank was ultimately confirmed on his retirement from the India Office.

In March, 1875, General Probyn interviewed him about the Prince of Wales's projected visit to India; the Prince had expressed a wish that Dr. Fayrer should accompany him, and Lord Salisbury desired to know if he would undertake the duty. He did so with pleasure and wrote a memorandum for the Queen and for Lord Salisbury on the Indian climate. In April he visited the Prince at Sandringham and in August he was commanded by the Queen to go to Osborne, when he reassured Her Majesty on the safety of the expedition and undertook the full responsibility that it entailed. The Prince with his suite left London on Oct. 9th and embarked on the *Serapis* at Brindisi on the 16th. Of the great and memorable tour through India an interesting account is given in Dr. Fayrer's "Recollections," where he tells of the careful way in which the tour was arranged on his advice so as to avoid cholera and other dangers due to climatic causes. When at Lucknow he took the opportunity of showing the Prince the shot-riddled remnants of that house which 18 years before he had so heroically helped to defend. It was at Dholepore, on the return from visiting the rock-fortress of Gwalior, that the Prince told him that a telegram had come to the Viceroy from the Queen saying that he (together with Probyn and Browne) was to be made a Knight Commander of the Star of India. His Royal Highness subsequently held a Chapter of the Order at Allahabad and invested him with the insignia. They left Bombay on March 13th and on the return journey visited Cairo, Malta, Gibraltar, and Madrid where they were received by King Alfonso. On May 10th the Prince presented Sir Joseph Fayrer with some valuable souvenirs of the expedition, among them a gold bracelet set with diamonds, with his portrait, for Lady Fayrer. On May 11th the *Serapis* entered Portsmouth Harbour and on the following day he attended the drawing-room with his wife, when all the suite were presented to Her Majesty by the Prince. His name also appeared in that day's *Gazette* as Honorary Physician to the Prince of Wales. In 1879 his journal while with the Prince was published for private circulation.

In April, 1877, Sir Joseph Fayrer was selected as one of the 15 new Fellows of the Royal Society. In conjunction with Dr. (now Sir) Lauder Brunton he had read a paper before the society on the Physiological Action of the Poison of Naja Tripudians which is recorded in the Proceedings; he became a member of the council in 1895. In 1880 he was chosen by the Secretary of State for War to succeed Mr. Busk as examiner in anatomy and physiology at the examination for admissions to the Medical Services, an appointment he held for some years. In the November of 1882 he was elected a governor of Guy's Hospital and later a governor and consulting physician to the Italian Hospital in London. During this period he had an extensive consulting practice which was naturally largely amongst Anglo-Indians. In the August of 1883 he was deputed to represent the Indian Government at the International Congress at Amsterdam. He there read a paper, written conjointly with the late Sir Joseph Ewart, in French, on the Treatment of Tropical Diseases in Temperate Climates. In the May of the next year he commenced giving clinical lectures at Charing Cross Hospital upon Liver Abscess and Tropical Diarrhœa. It was in the same year that the Prince of Wales invited him to be a Royal Commissioner for the Indian and Colonial Exhibition to be held in 1886. In May and June he represented India both technically and diplomatically at the International Cholera Congress held at Rome, and in December he represented the Royal College of Physicians, and the University of Edinburgh at the tercentenary of Galileo at Padua, in the great hall of whose University he addressed the assembly in Italian. The University conferred on him the honorary degree of Doctor of Philosophy. On his retirement from the India Office the officers of the Medical Services, at the suggestion of Major W. W. Webb, I.M.S., who acted as honorary secretary to the movement, invited him to sit for his portrait to be placed in the mess at Netley. It was painted by Sydney Hall in 1896 and was unveiled by Lord Wolseley. On Jan. 8th, 1895, he attended his last board at the India Office and on the 12th retired with a superannuation allowance of £300 a year. Later he was accorded a good service pension of £100 a year. In January, 1896, the Prime Minister informed him that the Queen had conferred a baronetcy on him in recognition of the position which he had attained in his profession and of his long services.

Sir Joseph Fayrer was a prolific writer. In addition to the publications already mentioned, there came from his pen the following works and articles of note: "Clinical Surgery in India" (1866); "Osteomyelitis and Septicæmia" and the "Nature of Visceral Abscess" (1867); "Fibrinous Coagula in the Heart and Pulmonary Artery as a Cause of Death after Surgical Operations" (1867); "Clinical and Pathological Observations in India" (1873); "Tropical Diseases" (his Lettsomian lectures and other papers on cognate subjects), (1881); "The Climate and Fevers of India" (his Croonian lectures at the College of Physicians of London), (1882); "Venom, Effects of: Venomous Animals" (Quain's "Dictionary of Medicine," 1882); "Epidemiology of Cholera" (1888); "Sunstroke," "Climate," and "Fevers of India" (Allbutt's "System of Medicine," 1894); "On Preservation of Health in India" (1894); "Sir Ranald Martin" (1897); "The Hill Stations of India as Health Resorts" (*British Medical Journal*, 1900); "Recollections of my Life" (1900); "Tropical Abscess of Liver" (Murchison's "Lectures on Diseases of the Liver," third edition); "Liver Abscess"; "Tropical Diarrhœa" and "Sunstroke" (Davidson's Hygiène of Warm Climates); and "Natural History of the Tiger." He was also an admirable linguist and he devoted much of his spare time to languages. In India Burmese, Urdu, and Persian, the last being the language of official correspondence with the Court of Lucknow, occupied his attention; in Europe the study of Italian was a favourite relaxation, while he was a good French scholar. Sir Joseph Fayrer was associated with most of the learned societies of the day. We have already recorded his election as a Fellow of the Royal Society and also as a Fellow of the Royal Society of Edinburgh. While a student he was elected a Fellow of the Royal Geographical Society, a corresponding member of the Zoological, and a member of the Hakluyt Societies. He subsequently became a Fellow, member of the council, and Vice-President of the Zoological Society, a Fellow of the Royal Medical and Chirurgical Society, and a member of the Pathological Society, to the membership of the council of which he was elected in 1880. He was also at one time President of the Medical Society and was President of the Epidemiological Society during the years 1879 and 1880. In 1885 he was elected a corresponding member of the Academy of Medicine of France and later was promoted to be a foreign associate. In the same year he was made an honorary corresponding member of the Société d'Hygiène Publique of Paris and an honorary member of the Royal Academy of Medicine of Rome. He was also a foreign corresponding member of the Royal Academy of Science of Lisbon and a Fellow of the Academy of Science and College of Physicians of Philadelphia. Taking a great interest in sanitary science, he became President of the Association of Medical Men holding Sanitary Science Diplomas, afterwards called "The Royal Society of Public Health." In 1878 he received the honorary degree of LL.D. from the University of Edinburgh and 12 years later the University of St. Andrews honoured him with a similar degree.

Sir Joseph Fayrer's interest in education was continued throughout his life. In addition to his direct interest as a teacher in the Calcutta and Charing Cross Medical Schools he took a lively interest in the welfare of many other educational establishments. He was a governor of Wellington College and of Epsom College of which latter institution he was appointed a member of the council in 1877 and subsequently chairman; to this College he had previously handed over as a thank-offering, all his prize money and batta for Burmah, and the batta and 12 months' prize-money for the defence of Lucknow. For many years the welfare of the Army Medical School at Netley greatly occupied his time and thoughts. He distributed the prizes on more than one occasion and was a regular attendant at the meetings of the senate and at the gatherings which closed the different sessions of the school as long as he remained in office. After his retirement he visited the school and addressed the young officers at the close of the sessions as often as his health permitted him. He for years gave a prize.

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DONATIONS AND BEQUESTS.—By the will of Mrs. Stephanie of Hampstead the Middlesex Hospital will benefit by a sum of £1050, and Charing Cross Hospital, the North London Hospital for Consumption, the Victoria Hospital for Children, Guy's Hospital, St. Mary's Hospital, and the Hampstead Hospital and Nursing Institute will each receive £1000. £500 each have been left to the Kilburn Dispensary, Brompton Hospital for Consumption, Royal Hospital for Incurables, and the French Hospital, while the Surgical Aid Society and the Freidenheim Hospital will receive £250 each for charitable purposes. Subject to other legacies, the testatrix left the residue of her estate to the following hospitals: the North London Hospital for Consumption, Charing Cross Hospital, Victoria Hospital for Children, Middlesex Hospital, Guy's Hospital, St. Mary's Hospital, and Hampstead Hospital. The amount available for charitable purposes will be about £16,000.—Mr. William Young of Peebles has by will bequeathed land the value of which is about £12,000 to the town council of Peebles for the purpose of founding a sanatorium for the treatment of pulmonary tuberculosis.

THE IMPROVEMENT OF ROME.—Mr. Morgan, the British Consul, in his annual report, just received at the Foreign Office, states that after a somewhat protracted period of economic depression Rome has awakened to a new existence. Within the brief period of 37 years the city has been almost rebuilt, and by comparing a map of 1870 with one of the present time it can be seen at a glance that its topography has altered considerably. The population at present is believed to be about 520,196, the number of foreigners being nearly 10,000, including some 1800 British. The pretty small towns and villages near Rome are now served by a regular electric tramway service. The country is being gradually opened up and symptoms of activity are everywhere discernible. The two railway stations in Rome, known as Termini and Trastevere, are to be shortly connected by means of a direct line. The death-rate has decreased considerably since 1871, as will be seen from these figures: 1871, 41·8 per 1000 inhabitants; 1875, 33·9; 1879, 25·1; 1883, 24·3; 1887, 22·8; 1891, 20·9; 1895, 19·2; 1900, 19·0; and 1905, 20·6. The former scourge of the district of Rome was malaria. Improved sanitation and the measures everywhere adopted in order to avoid infection through the dreaded mosquito have largely contributed to reduce the rate of mortality from that disease. The deaths from malaria were 189 in 1893, 189 in 1895, 73 in 1897, 87 in 1899, 76 in 1901, 48 in 1903, and 65 in 1905. The Vice-Consul at Civita Vecchia the publications already mentioned, there came from his pen the following works and articles of note: "Clinical Surgery in India" (1866); "Osteomyelitis and Septicæmia" and the "Nature of Visceral Abscess" (1867); "Fibrinous Coagula in the Heart and Pulmonary Artery as a Cause of Death after Surgical Operations" (1867); "Clinical and Pathological Observations in India" (1873); "Tropical Diseases" (his Lettsomian lectures and other papers on cognate subjects), (1881); "The Climate and Fevers of India" (his Croonian lectures at the College of Physicians of London), (1882); "Venom, Effects of: Venomous Animals" (Quain's "Dictionary of Medicine," 1882); "Epidemiology of Cholera" (1888); "Sunstroke," "Climate," and "Fevers of India" (Allbutt's "System of Medicine," 1894); "On Preservation of Health in India" (1894); "Sir Ranald Martin" (1897); "The Hill Stations of India as Health Resorts" (*British Medical Journal*, 1900); "Recollections of my Life" (1900); "Tropical Abscess of Liver" (Murchison's "Lectures on Diseases of the Liver," third edition); "Liver Abscess"; "Tropical Diarrhœa" and "Sunstroke" (Davidson's Hygiene of Warm Climates); and "Natural History of the Tiger." He was also an admirable linguist and he devoted much of his spare time to languages. In India Burmese, Urdu, and Persian, the last being the language of official correspondence with the Court of Lucknow, occupied his attention; in Europe the study of Italian was a favourite relaxation, while he was a good French scholar. Sir Joseph Fayrer was associated with most of the learned societies of the day. We have already recorded his election as a Fellow of the Royal Society and also as a Fellow of the Royal Society of Edinburgh. While a student he was elected a Fellow of the Royal Geographical Society, a corresponding member of the Zoological, and a member of the Hakluyt Societies. He subsequently became a Fellow, member of the council, and Vice-President of the Zoological Society, a Fellow of the Royal Medical and Chirurgical Society, and a member of the Pathological Society, to the membership of the council of which he was elected in 1880. He was also at one time President of the Medical Society and was President of the Epidemiological Society during the years 1879 and 1880. In 1885 he was elected a corresponding member of the Academy of Medicine of France and later was promoted to be a foreign associate. In the same year he was made an honorary corresponding member of the Société d'Hygiéne Publique of Paris and an honorary member of the Royal Academy of Medicine of Rome. He was also a foreign corresponding member of the Royal Academy of Science of Lisbon and a Fellow of the Academy of Science and College of Physicians of Philadelphia. Taking a great interest in sanitary science, he became President of the Association of Medical Men holding Sanitary Science Diplomas, afterwards called "The Royal Society of Public Health." In 1878 he received the honorary degree of LL.D. from the University of Edinburgh and 12 years later the University of St. Andrews honoured him with a similar degree.

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DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—The annual meeting and conference were held at 11, Chandos-street, London, W., on May 22nd, Dr. Leslie Roberts, the President, being in the chair. Upon the completion of the usual business formalities an oration was delivered by Professor Dr. Lassar of Berlin, who chose for his subject, "The Relationship of Dermatology to the Other Branches of Medical Science." The lecture was illustrated by a series of beautifully coloured lantern slides. The annual dinner of the society was held the same night at the Imperial Restaurant, the distinguished orator of the afternoon being the chief guest.

UNIVERSITY OF CAMBRIDGE.—Mr. Adam Sedgwick has been reappointed a manager of the Balfour Fund for Animal Morphology.—A course in Systematic Botany will be given during the long vacation in the new botany school, beginning on July 6th.—It is proposed to establish a university diploma in anthropology for advanced students and graduates who have pursued the subject under the direction of the Board of Anthropological Studies.—An exhibition of £50 a year for two years is offered by Emmanuel College for an advanced student pursuing a course of research in the University. The student will have to begin residence in October, 1907.

DONATIONS AND BEQUESTS.—By the will of Mrs. Stephanie of Hampstead the Middlesex Hospital will benefit by a sum of £1050, and Charing Cross Hospital, the North London Hospital for Consumption, the Victoria Hospital for Children, Guy's Hospital, St. Mary's Hospital, and the Hampstead Hospital and Nursing Institute will each receive £1000. £500 each have been left to the Kilburn Dispensary, Brompton Hospital for Consumption, Royal Hospital for Incurables, and the French Hospital, while the Surgical Aid Society and the Freidenheim Hospital will receive £250 each for charitable purposes. Subject to other legacies, the testatrix left the residue of her estate to the following hospitals: the North London Hospital for Consumption, Charing Cross Hospital, Victoria Hospital for Children, Middlesex Hospital, Guy's Hospital, St. Mary's Hospital, and Hampstead Hospital. The amount available for charitable purposes will be about £16,000.—Mr. William Young of Peebles has by will bequeathed land the value of which is about £12,000 to the town council of Peebles for the purpose of founding a sanatorium for the treatment of pulmonary tuberculosis.

THE IMPROVEMENT OF ROME.—Mr. Morgan, the British Consul, in his annual report, just received at the Foreign Office, states that after a somewhat protracted period of economic depression Rome has awakened to a new existence. Within the brief period of 37 years the city has been almost rebuilt, and by comparing a map of 1870 with one of the present time it can be seen at a glance that its topography has altered considerably. The population at present is believed to be about 520,196, the number of foreigners being nearly 10,000, including some 1800 British. The pretty small towns and villages near Rome are now served by a regular electric tramway service. The country is being gradually opened up and symptoms of activity are everywhere discernible. The two railway stations in Rome, known as Termini and Trastevere, are to be shortly connected by means of a direct line. The death-rate has decreased considerably since 1871, as will be seen from these figures: 1871, 41·8 per 1000 inhabitants; 1875, 33·9; 1879, 25·1; 1883, [illegible]·3; 1887, 22·8; 1891, 20·9; 1895, 19·2; 1900, 19·0; and 1905, 20·6. The former scourge of the district of Rome was malaria. Improved sanitation and the measures everywhere adopted in order to avoid infection through the dreaded mosquito have largely contributed to reduce the rate of mortality from that disease. The deaths from malaria were 189 in 1893, 189 in 1895, 73 in 1897, 87 in 1899, 76 in 1901, 46 in 1903, and 65 in 1905. The Vice-Consul at Civita Vecchia says that the position of that bathing resort is gradually improving. The waterworks are now ready and a plentiful supply of good drinking water is available. As a scarcity of water was the chief reason why visitors shunned Civita Vecchia during the summer months it is hoped that the town will again become the favourite watering-place of the Romans.

THE COLONIAL NURSING ASSOCIATION.—On the invitation of the Duke and Duchess of Westminster a meeting of the Colonial Nursing Association will be held on June 14th at 3.30 P.M. at Grosvenor House. Princess Henry of Battenberg, the patroness of the association, has signified her intention of being present, and Lord Ampthill will preside. The speakers will include the Right Hon. Austen Chamberlain, M.P., the Right Hon. Sir George T. Goldie, and Sir Francis Hopwood.

LONGEVITY.—Mrs. Honor Coleman of Cleeve. Somerset, is perhaps the oldest woman in England, having recently attained the remarkable age of 107 years. Her mother was a centenarian, as was her grandmother who lived to the age of 101 years, while her daughter who lives with her is nearly 80 years of age.—The Rev. John Aldis of Beckington, Somerset, entered his 100th year on May 12th.—Mrs. Metherell of Tavistock, Devonshire, attained the 103rd anniversary of her birthday on May 21st.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.—The report of this society for 1906 was presented at the general meeting of the members held on May 23rd. At the end of 1906 there were 2488 members, being an increase of 59 during the year, all being male members of the medical profession or Licentiates of Dental Surgery practising in the United Kingdom. The funds increased by more than £12,000 and now amount to £208,357. The amount paid in sickness benefit during the year was £11,494, being the largest yet disbursed in one year. The annual premium income in this branch is £15,302. The management expenses are low and there is a large balance to the credit of the management fund—viz., £13 469. We should have preferred to see the interest on this sum set out more clearly but it is no doubt included in the investment fluctuation reserve fund which amounts to £12,966. A full list of the assets is given and it is interesting to notice the large amounts invested in Australian stocks.

THE PREVENTION OF PULMONARY TUBERCULOSIS—A conference of representatives of the metropolitan borough councils on the question of taking measures to limit the spread of pulmonary tuberculosis will be held at the Paddington town hall on Thursday, June 6th. Notice of the following motion has been given by Councillor W. J. Nolan of Paddington:—

> (a) That it is desirable that the notification of pulmonary tuberculosis (consumption) should be compulsory. (b) That application be made to the Local Government Board for an order to be made—(i.) To include pulmonary tuberculosis (consumption) among the diseases to be notified under Section 55 of the Public Health (London) Act, 1891; and (ii.) to extend the provisions of the following sections of the above Act to pulmonary tuberculosis (consumption)—Section 60, cleansing and disinfecting of premises, &c.; Section 61, disinfection of bedding, &c.; Section 62 infectious rubbish thrown into ash-pits, &c., to be disinfected; Section 63, penalty on letting houses in which infected persons have been lodging; Section 64. penalty on persons letting houses making false statements as to infectious disease; Section 65, penalty on ceasing to occupy house without disinfection or notice to owner or making false answer.

And further—

> That the President of the Local Government Board be asked to receive a deputation from the conference in support of the resolution (if adopted).

The propositions include a further motion on behalf of the Poplar borough council:—

> That, in the opinion of this conference, it is desirable, in order to limit the spread of pulmonary tuberculosis, provision should be made for public inspection and control at its several sources of the milk-supply of London.

We have before us an excellent report issued to the Paddington public health committee at the beginning of this year by Dr. Reginald Dudfield, medical officer of health of the borough. In this he gives a good account of the etiology of, and rational means of combating, tuberculosis, and adduces cogent reasons in favour of compulsory notification of at least the pulmonary form of the disease in order to limit its spread. The pamphlet would appear to have borne good fruit and although we think that the evidence in favour of compulsory notification is at present insufficient to justify its general adoption we hope that the deliberations of the borough councils' representatives may have beneficial results; the awakening of public interest in these matters of national health is an excellent sign of the times, and the exertions of medical officers of health cannot be more profitably directed than in instructing the public on their grave importance.

THE ROYAL WATERLOO HOSPITAL.—The Festival Dinner Committee has announced that the net proceeds of the dinner at the Savoy Hotel on May 14th last would exceed £1100.

HOLIDAY GUIDES.—The municipal authorities of several of the English health resorts now issue free guides to their respective towns, which can be obtained from the town clerks by forwarding on a post-card a request for a copy. These guides are admirable productions both from the literary and pictorial points of view, and are valuable aids in the selection of a suitable holiday resort. We have received specimens of the guides issued by the local authorities of Bournemouth, Hastings, Leamington Spa, Southwold, Tenby, and Weymouth.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Compensation for Industrial Diseases

THE Departmental Committee on Compensation for Industrial Diseases has just issued an elaborate and interesting report. This Committee was appointed by the Home Secretary in August, 1906, to inquire and to report "what diseases and injuries other than injuries by accident are due to industrial occupations, are distinguishable as such, and can properly be added to the diseases enumerated under the third schedule of the Workmen's Compensation Act, 1906." The members of the Committee were Mr. HERBERT SAMUEL, the Parliamentary Under Secretary of State for the Home Department (chairman), Professor T. CLIFFORD ALLBUTT of Cambridge; Mr. H. H. CUNYNGHAME, C.B., Assistant Under Secretary, Home Office; and Dr. T. M. LEGGE, medical inspector of factories. After prolonged investigation the Committee recommends that a large number of industrial diseases should be added to the third schedule of the Act, thus entitling workpeople who contract them in the course of their employment to compensation.

It may be explained that Section 8 of the Workmen's Compensation Act permits the Home Secretary to include additional diseases in the third schedule from time to time. Compensation is to be paid to a workman who is found to be suffering from a scheduled disease, and if the workman has been employed in any process mentioned in the schedule opposite to that disease, then, in the ordinary course, the disease shall be deemed to be due to the nature of that employment unless the employer proves the contrary. The members of the Committee have summarised their recommendations in a tabulated form.

If the Home Secretary acts on the advice of the Departmental Committee compensation to workpeople incurring these diseases in the ordinary nature of their employment will be payable in exactly the same manner as in the case of anthrax, lead poisoning or its sequelæ, mercury poisoning or its sequelæ, arsenic poisoning or its sequelæ, and ankylostomiasis incurred in mining. These are the diseases which already appear in the third schedule of the Act. In recommending the numerous additions to the schedule the Departmental Committee mentions that some of the diseases are seldom seen by medical men and occasionally difficulties of diagnosis may arise. It thinks it most desirable that the medical referees, who will be appointed to adjudicate on medical points in disputed cases, should be specialists with particular knowledge and experience of these diseases.

The Whitsuntide Holidays.

The House of Lords resumed on Tuesday last after the Whitsuntide holidays. The House of Commons re-assembled on Thursday, May 23rd.

The Butter and Margarine Bill.

One of the Standing Committees of the House of Commons had the Butter and Margarine Bill under consideration on Monday. Sir EDWARD STRACHEY, who represents the Board of Agriculture in the House of Commons, induced the committee to accept amendments reclassifying the substances dealt with in the Bill. As originally drafted the Bill took cognisance of pure butter, milk-blended butter, butter substitutes or imitation butters, and margarine. Sir EDWARD STRACHEY explained that the effect of his amendment was to have one butter substitute only and that to be what was now known as milk-blended butter. All other imitation butters were to come under the definition of margarine. Some discussion arose on the moisture clause which limits the proportion of water in butter and margarine to 16 per cent. and in butter substitutes to 24 per cent. Sir FRANCIS LOWE moved an amendment to limit the proportion of water in milk-blended butter to 16 per cent., on the ground that a higher percentage of moisture in it would lead to the perpetration of fraud on the consumer. In the course of the discussion Sir EDWARD STRACHEY intimated that the regulations of the Board of Agriculture would be framed to prevent this substance being sold under the title of milk-blended butter. Whilst they did not object to the sale of an article demanded by the public, yet they objected to the name "butter" being used in the description of it. This amendment had not been voted upon when the committee rose for the day.

Purity of Milk Supplies (Scotland) Bill.

Mr. WATT has introduced into the House of Commons a Bill to insure the purity of the milk-supplies of the rural and urban districts of Scotland. It was read a first time.

HOUSE OF COMMONS.

THURSDAY, MAY 23RD.

Municipal Milk Depôts.

Mr. RIDSDALE asked the President of the Local Government Board, whether he could state the cost of installation and of working and the receipts of any municipal milk depôts for which figures might be available.—Mr. J. BURNS gave a long and elaborate written reply relating to municipal milk depôts in Battersea, Lambeth, Woolwich, Bradford, Burnley, Liverpool, St. Helens, Ashton-under-Lyne, and Dukinfield. In the case of Battersea the cost of the installation was set down at £659. For the year ended March, 1907, the receipts were estimated at £795 and the expenditure at £1259. The cost of adapting premises in Lambeth for a milk depôt and of fittings and utensils was £881. During last year the receipts from it were £286, whilst the expenditure was £430. In Woolwich the cost of installation was £663, but the department had only been open since November. At Bradford the cost of machinery, fixtures and fittings was £444 and for the year ended March, 1907, the receipts were £1874 and the expenditure £1868. The Burnley depôt was opened in 1905, the installation costing £390. For the last financial year the receipts came to £425, but the expenditure was £640. In the case of Liverpool the costs of installation were included under the expenditure of the year. The figures of receipts and expenditure were as follows:—

Year.	Receipts.	Expenditure.
	£	£
1901	518	2000
1902	1535	4315
1903	2231	4259
1904	1676	3634
1905	1644	3632
1906	1250	3206

At St. Helens the cost of installation was returned at £391, and the depôt had been working for seven or eight years. In the year ended March, 1907, the receipts amounted to £78. The expenditure for the same period was £256. At Ashton-under-Lyne the receipts of the municipal milk depôt during the last financial year amounted to £449, whilst the expenditure on it came to £559. At Dukinfield the milk depôt was closed after an existence of two years.

FRIDAY, MAY 24TH.

The Vaccination Bill.

Mr. J. A. PEASE (on behalf of the President of the Local Government Board) formally moved the second reading of the Vaccination Bill.

Sir JOHN BATTY TUKE moved the rejection of the measure. He said that he objected to the Bill because it was illogical. It would neither meet the views of the anti-vaccinationists nor of the vaccinationists and it would afford increased opportunities for evading the law, and this would become a danger to the public health. The Bill, if it became law, would have the effect of increasing the anti-vaccination agitation and also the number of the extremists. It would not affect the honest objector to vaccination, for he was at present willing to sacrifice himself and to take trouble to vindicate his opinions. It was unluckily the case that even the honest conscientious objector dragged in his train a large number of persons who had no settled convictions on the subject of vaccination, such as ignorant parents and guardians. This class, he feared, would soon become a dangerous element. Soon it would be declared that the Vaccination Acts had become dead. At present small-pox was in abeyance, but as sure as the sun would rise to-morrow small-pox would reappear in an unprotected community. A large portion of it would be unvaccinated and when an epidemic of small-pox broke out there would be a rush of persons to be vaccinated and then it would be found that the local authorities were unable to meet the demand. He often wondered whether the antivaccinationists had ever seen an epidemic of small-pox among an unprotected community. If they had gone through this experience, as he had done on more than one occasion, they could not fail to realise the horrible condition of things that ensued from the outbreak of small-pox. With few exceptions all civilised countries had adopted vaccination with great advantage. In these circumstances was the Government justified in bringing forward a measure which sapped at the very foundations of the Vaccination Acts? The President of the Local Government Board was, at the instance of a small section of the community, throwing the responsibility on the shoulders of the illiterate but in the long run the responsibility for what would happen must fall on the right honourable gentleman himself. It must, however, be admitted that the time had come for a revision of the working of the law on this subject. He therefore suggested that the present Bill should be abandoned and a small representative committee appointed to consider the subject. Such a committee, he hoped, might arrive at a modus vivendi, which would be the foundation of a Bill acceptable to all sides.

Mr. CAVE seconded the motion for the rejection of the Bill. He believed that the Bill would not effect a settlement of the vaccination question. The measure was regarded by anti-vaccinationists as an instalment leading up to the larger policy of the abolition of the vaccination law. It was beyond controversy that vaccination was a real protection against small-pox and against a fatal termination to the attack of the disease when it did occur. The effect of the Bill was to make it much easier to obtain exemptions. If they made the process of obtaining these exemptions as much easier as the Bill proposed they would have persons in all classes either from mere carelessness or from unwillingness to undergo trouble, signing the proposed statutory declaration. The result would be that the number of exemptions would be very seriously increased. By passing the Bill they would be running the great risk of exposing the public to a great increase of a very dangerous and loathsome disease.

Mr. BURNS (the President of the Local Government Board) said that he had earlier in the session promised certain alterations in respect to vaccination. The first thing was a reduction in the cost which in recent years had been unduly inflated. Only in the course of the present week he had issued a Vaccination Order carrying out to the full the pledge he had given on this point. Then he had promised some form of statutory declaration in place of the existing exemption certificate. The Bill now under consideration gave effect to that promise. He had further promised that the Government would do its best to secure uniformity of action by the magistrates pending the adoption of the other measures promised, and the Home Secretary had issued a circular advising magistrates not only to be more discreet but also more reasonable and uniform in the administration of the law relating to exemptions. He had further undertaken that the Government would consider the possibility of transferring the whole administration of vaccination from the boards of guardians to the public health authorities. However, until the Royal Commission which was inquiring into the Poor-law reported he could not carry out, as he should like to do, the transfer. Finally, he promised that they would consider the question of suspending vaccination in early infancy and postponing it until a later period of life. However, until the two sets of opinion represented respectively by the honourable Member for Sleaford (Mr. Lupton) and the honourable Member for Edinburgh and St. Andrews Universities (Sir John Batty Tuke) reconciled themselves more amicably on other phases of vaccination, he could not see a way to redeem this promise. Proceeding, the right honourable gentleman said that it must be a subject of congratulation to everybody that the terrible scourge of small-pox was diminishing, and it was gratifying to know that in the year 1906 there were in England and Wales only 21 deaths from this disease, and that in London, with a population of 5,000,000, there was not a single death from the disease. The object of the Bill now under debate was to bring about an alteration in the manner of obtaining exemption from penalties for omitting to have a child vaccinated by substituting a statutory declaration for the certificate of conscientious objection required by the Act of 1898. Those who were responsible for inserting the word "satisfies" in Section 2 of that Act were to some extent responsible for the necessity of amending it now. The difficulty of administering the section had been foreseen by certain Members, whose predictions had been justified by the event. It was now admitted, even by opponents of the present Bill, that some of the magistrates had exceeded their powers. The Home Office had at last been compelled to issue circulars asking magistrates to do their duty in a way that would not give offence to applicants for exemption. Another matter of complaint under the present law was that in order to obtain a certificate of exemption parents were compelled to attend the court under a quasi-criminal aspect. The Bill substituted for the present process a simple statutory declaration before a commissioner for oaths or a justice of the peace. The parent who made such a declaration would be exempted from the stamp duty, which the Chancellor of the Exchequer had generously consented to waive. He would, however, have to pay a small fee required by the Statutory Declarations Act, 1835, which varied from a shilling to eighteenpence. It might be urged that this Bill would make the way of the conscientious objector too easy. Similar predictions were made in 1898, but, as a matter of fact, the conscientious objections since that date had remained practically stationary. It was the case that the Royal Commission had contemplated a statutory declaration of some kind and desired to call the parent before the local authority. That procedure would be more inconvenient and irritating than appearing before a justice of the peace, or a commissioner for oaths, or a stipendiary magistrate. A suggestion had been made that recourse for the purposes of the statutory declaration should be had to the registrar rather than to the commissioner for oaths and the magistrate. He saw no reason for adopting that suggestion, as the registrar was in no sense connected with vaccination and it was undesirable to create any more vested interests with regard to it. In the administration of the law with respect to vaccination they ought not to have an officer who might be supposed to be increasing his professional business by taking these declarations. It was exceedingly important to satisfy all parties that the commissioners for oaths, the magistrates, and the justices of the peace who would take these declarations under the Bill should be regarded as neutral persons and that they received their fees for the declaration and for no other purpose. In his belief, the nuisance which had grown up under the Bill of 1898 was intolerable and could not be allowed to continue. He also believed that the useful little Bill now under consideration would go a long way to remove the grievance of the conscientious objector. He trusted that it would receive the hearty sympathy of the House.

Mr. PICKERSGILL thought that the Government ought to have gone further in its legislation and have removed the neglect of vaccination altogether from the purview of the criminal law.

Sir HENRY CRAIK said that it was impossible for him to remain silent on this question in view of the fact that a large proportion of his constituents, as medical graduates of the Universities of Aberdeen and Glasgow, were interested in the matter from the point of view of medical science. He felt that the Bill was a concession to prejudice and ignorance. It left no discretion whatever in the hands of the commissioner for oaths and the justice of the peace. It substituted a secret signature for a statement of conscientious objection in the light of publicity with the aid which publicity gave to distinguish between ignorance, carelessness, thoughtlessness, or prejudice and a conscientious objection to vaccination. He feared that there would be a very serious diminution in the percentage of vaccination. Surely it was unwise to yield to the pressure of those who were in opposition to the fixed conclusions of the great mass of scientific medical opinion.

Sir FREDERICK BANBURY also opposed the second reading of the Bill. It was with regret that he saw the President of the Local Government Board yielding to the pressure of the anti-vaccinationists. This concession to them would only be made the jumping ground for further demands. The Bill, in his view, was a step towards the abolition of compulsory vaccination.

The House then divided, when there voted:—

For the rejection of the Bill, 14; against, 122; majority against rejection, 108.

Sir John Batty Tuke's amendment being thus defeated, the motion for the second reading of the Bill was agreed to without a division.

MONDAY, MAY 27TH.

Reported Remedy for the Opium Habit.

Mr. Pike Pease asked the Secretary of State for India whether his attention had been called to the statement by Mr. L. Wray, director of Museums of the Federated Malay States, in regard to the new anti-opium remedy and to the results obtained from its use in Selangor; also to the statement that at the Weld-road establishment of the Selangor Anti-Opium Society, in Kuala Lumpur, from Nov. 16th to 23rd last about 400 patients had reported that they were completely cured of the habit of opium smoking; and whether in these circumstances His Majesty's Government would appoint a committee to investigate the matter.—Mr. Churchill said, in reply: I shall answer this question instead of the Secretary of State for India. I have not seen the statements to which the honourable member refers, but the High Commissioner for the Federated Malay States reports that there is considerable conflict of opinion with regard to the alleged cure. The Government analyst of the Straits Settlements has been unable to find any special constituent in the plant or plants from which the decoction is prepared and it is said that the same effects have been produced by a strong infusion of tea. A further analysis is now being conducted at the Imperial Institute, and pending a report on the results it would be premature to consider the question of appointing a committee.

Motor Accidents in London.

In reply to Mr. Cathcart Wason, Mr. Gladstone (the Home Secretary) said: The number of accidents in the metropolis known to the police to have been caused in the streets by motor-cars, motor-cycles, and motor-omnibuses during the six months ended April 30th last is 4451. Of these accidents, personal injury resulted in 1175 cases and fatal injury in 41 cases.

TUESDAY, MAY 28TH.

The Inspection of Irish Pork.

Mr. Watt asked the Chief Secretary to the Lord Lieutenant of Ireland whether he would insure that all carcasses of swine slaughtered in Ireland for export were inspected in accordance with the recommendation of the Local Government Board—namely, that the presence of tuberculous deposit in any degree should involve seizure of the whole carcass and organs; and, if the carcasses and organs could not be inspected by competent inspectors in Ireland, would he take steps to prevent the flesh being exported to Scotland for human food.—Mr. Birrell replied: The Local Government Board for Ireland has on two occasions brought the recommendation mentioned in the question to the notice of local authorities in Ireland, but the Board has no power to enforce its adoption. The inspection of meat intended for human food is a matter for the local authorities themselves. The Board has no power to prohibit the export of meat. I have no information that unfit meat is exported to Scotland, but if it be suggested that such is the case I imagine that the Scottish local authorities would have power to deal with the matter. Upon that point, however, my honourable friend should address the Secretary for Scotland.

Schools and the Dissemination of Disease.

Mr. Whitehead asked the President of the Board of Education whether his attention had been drawn to the fact that when individual children were kept away from an elementary school by order of the medical officer of health their absence, by reducing the average attendance, reduced the Parliamentary grant; whether he was aware that reduction in such circumstances operated hardly upon poor districts and discouraged proper precautions against the spreading of disease; and whether steps could be taken to assimilate the administration of elementary schools in this particular to that prevailing in secondary schools where no loss of Parliamentary grant was sustained through absence caused by illness.—Mr. McKenna answered: The absence of individual children, whatever be the cause, necessarily reduces the average attendance of the school, but I do not think any serious loss of grant results from exclusion under medical authority—for example, the exclusion of 40 children for a week would only involve a loss of about £2 to the local education authority. The method of computing average attendance will, of course, be one of the questions demanding careful consideration in connexion with any scheme for reorganising the system of grants, but I have grave doubts whether the system at present in force in secondary schools could be applied without very considerable modifications to elementary schools.

WEDNESDAY, MAY 29TH.

The National Physique.

Captain Faber asked the Secretary of State for the Home Department whether there were any statistics to show that the national physique had bettered or deteriorated during the last ten years, in addition to the findings of the Departmental Committee recently issued.—Mr. Gladstone replied: I am not aware of the existence of any general official statistics on this subject. I think the deficiency is to be regretted.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

Annand, W. Fraser, M.D., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Physician to the Staffordshire General Infirmary, Stafford.

Bradley, Frederick H., M.B., Ch.B. Edin., has been appointed Senior House Surgeon at the Liverpool Stanley Hospital.

Colyer, H. C., M.R.C.S., L.R.C.P. Lond., L.D.S., has been appointed House Surgeon at the Royal Dental Hospital of London and School of Dental Surgery.

Cooper, R. W. C., L.D.S. R.C.S. Eng., has been appointed House Surgeon at the Royal Dental Hospital of London and School of Dental Surgery.

Costouros, J., M.D., L.M., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Crosby, Harry Main, M.B., C.M. Edin., has been appointed Honorary Surgeon to the General Hospital, Stroud (Gloucestershire).

Cuttriss, W. A., L.D.S. R.C.S. Eng., has been appointed House Surgeon at the Royal Dental Hospital of London and School of Dental Surgery.

Fleury, K. F., L.R.C.P. & S. Irel., has been appointed Medical Officer for the Riverstown Dispensary District of Birr, King's County, Ireland.

Jubb, Archibald, M.D. Glasg., has been appointed Extra Honorary Physician to the Royal Hospital for Sick Children, Glasgow.

Morris, William David Joseph, M.R.C.S., L.R.C.P. Edin., L.S.A., has been appointed Medical Officer to the Cardiff Post Office (Eastern District).

Patrick, J. King, M.B., Ch.B. Glasg., has been appointed Extra Honorary Physician to the Royal Hospital for Sick Children, Glasgow.

Russell, W. K., M.B. Glasg., has been appointed Medical Officer and Public Vaccinator for the No. 1. (Ilminster) District by the Chard (Somerset) Board of Guardians.

Sibbald, Ian Graham, M.B., C.M. Edin., has been appointed Medical Officer of Health by the Chard (Somerset) Rural District Council.

Sprawson, F. B., M.R.C.S., L.R.C.P. Lond., L.D.S., has been appointed House Surgeon at the Royal Dental Hospital of London and School of Dental Surgery.

Stevens, Bertram Crossfield, M.S., M.D. Durh., F.R.C.S. Edin., L.R.C.P. Lond., has been appointed Additional Honorary Anæsthetist to the Lancaster Royal Infirmary.

Sutcliffe, P. H., L.D.S. R.C.S. Eng., has been appointed House Surgeon at the Royal Dental Hospital of London and School of Dental Surgery.

Treasure, William Beeson Crawford, M.D. Durh., M.R.C.S., L.S.A., has been appointed Medical Officer to the Cardiff Post Office (Western District).

Vintras, G. C. Louis, M.D. Durh., has been appointed Director of the French Convalescent Home at Brighton and of the Annexe for the Preventive Treatment of Tuberculosis.

Wade, Charles, L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the Boscastle (Cornwall) Friendly Society.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Ayr District Asylum.—Junior Assistant Physician. Salary £120, with board, apartments, and laundry.

Bethlem Hospital.—Two Resident House Physicians (unmarried) for six months. Salary £50, with apartments, board, and washing.

Bradford Children's Hospital.—House Surgeon. Salary £100.

Bradford Royal Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

Brixton Dispensary.—Resident Medical Officer, unmarried. Salary £150, with apartments, attendance, coal, and gas.

Bury St. Edmunds, West Suffolk General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

Cheltenham General Hospital.—Surgeon-in-Charge of the Branch Dispensary, unmarried. Salary £90 per annum, with board and lodging.

Chesterfield and North Derbyshire Hospital and Dispensary.—Junior House Surgeon. Salary £80 a year, with board, apartments, and laundress.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Resident Medical Officer. Salary £120 per annum, with board, &c. Also Surgeon and Physician to the Out-patients.

Coventry and Warwickshire Hospital.—Junior House Surgeon for six months, renewable. Salary £60 per annum, with rooms, board, washing, and attendance.

Devonport, Royal Albert Hospital.—Resident Medical Officer. Salary £100 per annum, with apartments, board, &c.

Dumfries and Galloway Royal Infirmary.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

Egypt.—Sub-Inspector of Ophthalmic Hospitals, unmarried. Salary £500 a year.

Epsom, London County Asylum, Horton.—Fifth Assistant Medical Officer. Salary £150 a year, with board, apartments, and washing.

Guildford, Royal Surrey County Hospital.—Assistant House Surgeon. Salary £50, with board, residence, and laundry.

Halifax Union Poor-law Hospital, Salterhebble.—Resident Medical Officer. Salary £125 per annum, with apartments, rations, and washing.

Her Majesty's Hospital for Children (Dr. Barnardo's Homes), Stepney Causeway, E.—House Surgeon and Resident Medical Officer. Salary £60, with board, lodging, and washing.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence. Also Anæsthetist.

Hull, Royal Infirmary.—Casualty House Surgeon. Salary £50, with board and lodging.

Indian Medical Service.—An Examination for not less than 11 Commissions.

Isle of Wight Rural District Council.—Medical Officer of Health. Salary £300 per annum.

Leicester Infirmary.—Assistant House Physician for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

Maidstone, West Kent General Hospital.—Assistant House Surgeon and Anæsthetist, unmarried. Salary £60, with board, lodging, and washing.

Manchester, St. Mary's Hospitals for Women and Children.—Fourth House Surgeon for six months. Salary £25, with board and residence.

Manchester, University of.—Junior Demonstrator of Physiology. Salary £100, rising to £150 per annum.

Newport and Monmouthshire Hospital.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and laundry.

Newcastle-upon-Tyne, City and County of.—Assistant Medical Officer of Health and Resident Medical Officer of the City Hospital for Infectious Diseases, unmarried. Salary £300 per annum, with board, lodging, &c.

Norfolk and Norwich Hospital.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

North-Eastern Hospital for Children, Hackney-road, Bethnal Green, E.—House Physician, also House Surgeon, both for six months. Salaries at rate of £60 per annum, with board, residence, and laundry.

Nottingham General Hospital.—Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.

Paddington Infirmary and Workhouse.—First Assistant to the Medical Superintendent of the Infirmary and Assistant Medical Officer of the Workhouse, unmarried. Salary £120 per annum, rising to £150, with board, lodging, and washing. Also Second Assistant to the Medical Superintendent of the Infirmary and Medical Officer of the Workhouse, unmarried, for six months. Salary at the rate of £72 per annum, with board, lodging, and washing.

Royal Eye Hospital, S.E.—House Surgeon. Salary £52 10*s.* per annum, with board and residence.

St. Bartholomew's Hospital.—Lectureship in Anatomy.

Salford Royal Hospital.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board and residence.

Taunton and Somerset Hospital, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

Throat Hospital, Golden-square, W.—House Surgeon. Salary at rate of £75 per annum, with residence, board, and laundry.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Honorary Anæsthetist.

Walsall and District Hospital.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

West Bromwich District Hospital.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing. Also Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and washing.

West London Hospital, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry allowance provided.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Withnell, in the county of Lancaster; at Hemsworth, in the county of York; and at Horsmonden, in the county of Kent.

Births, Marriages, and Deaths.

BIRTHS.

Barlow.—On May 25th, at "Sa Maison," Somersham, Huntingdonshire, the wife of H. Cecil Barlow, M.B., L.R.C.P., M.R.C.S., of a son.

McNeight.—On May 22nd, at Thaxted, Essex, the wife of W. R. P. McNeight, M.D. T.C.D., of a daughter.

Russell.—On May 25th, at Osman House, Fortis Green, N., the wife of J. Dill Russell, F.R.C.S. Eng., of a son.

Schofield.—On May 29th, at 1, Phillimore-gardens, Kensington, the wife of S. Robert Schofield, M.B. Lond., a daughter.

MARRIAGES.

Macsherry—Aubril.—At the Oratory, Birmingham, Maurice Macsherry, L.R.C.P., &c., 72, Summerhill-road, Birmingham, to Valérie Marie Louise Aubril of Summerhill Court, Kingswinford, daughter of Louis Stanislas Aubril, Sartilly, Manche, France.

Riviere—Osler.—On May 22nd, at Rosslyn-hill Chapel, Hampstead, Clive Riviere, M.D., to Henrietta Maria (Hetty), daughter of Thomas Osler, and granddaughter of the late T. Smith Osler of Hampstead.

Stanwell—Gilling.—On May 23rd, at St. John's Parish Church, Chipping Barnet, F. Skey Stanwell, M.D., to Edith Elizabeth, second daughter of Henry R. Gilling, J.P., of Sowerby, Ravenscourt Park, Barnet, Herts.

DEATHS.

Groves.—On May 21st, at his residence, Carisbrooke, Isle of Wight, Joseph Groves, B.A., M.B. Lond., in his 65th year.

Wood.—At Margaret-street, Cavendish-square, W., on May 25th, Caroline Augusta Charlotte, wife of T. Outterson Wood, M.D.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A MONSTROUS COUNTER-CLAIM.

At the Greenwich county court on April 19th, before his honour Judge Willis, K.C., Mr. E. Middlebrooke, L.S.A., of Eltham, sued Mr. David T. McCulloch, of 104, Earlshall-road, Eltham, for £3 12*s.* 6*d.*, fee for medical attendance, and the defendant counter-claimed for £50 damages for careless treatment and faulty diagnosis of his wife's illness, alleging that the deceased met her death from this cause. Mr. Mathew (counsel), instructed by the solicitors of the London and Counties Medical Protection Society, appeared for the plaintiff and Mr. Walton (solicitor) for the defendant. The plaintiff's claim being admitted, judgment was entered for him for the £3 12*s.* 6*d.*, and his honour then proceeded to hear the counter-claim. The defendant said that he called in Mr. Middlebrooke to attend his wife in November, 1904. Mr. Middlebrooke proved from his books that he had diagnosed and treated the case as Bright's disease and Dr. John Rice deposed that he had made the same diagnosis independently. The defendant stated that Mr. Middlebrooke had diagnosed "gall-stones and a growth." After hearing the evidence his honour, in giving a judgment in favour of Mr. Middlebrooke, expressed himself in very warm terms on the defendant's conduct in raising such a counter-claim. It was a monstrous claim that should never have been persisted in. He had spoken strongly because there were always base minds ready to entertain any insinuations, but so far as his voice could help he wished it to go forward that Mr. Middlebrooke's treatment of the deceased had been skilful and proper and there was not the slightest evidence to show that any one of the defendant's statements was justified. We are glad to be able to record so trenchant a judicial pronouncement on the impropriety of such preposterous claims against medical men.

THE TREATMENT OF DIABETES.

To the Editors of The Lancet.

Sirs,—Could any of your readers give me the name of any drug that has proved in their experience a "cure" for diabetes? The case is of the obese type and of some duration. The worst symptoms are great depression of spirits, bodily weakness, and constipation.

I am, Sirs, yours faithfully,

May 13th, 1907.

M.B., C.M.

"LEONARD DE BAYER."

An Aberdeen correspondent writes:—

> "The capture of a man wanted by the Liverpool police authorities took place at Aberdeen last week, the arrest having been made through the instrumentality of a letter which appeared last week in The Lancet. In that letter information was given that a young man, 'Leonard de Bayer,' was wanted on a charge of obtaining money by false pretences, he being in the habit of calling at hospitals and upon medical men at their private addresses and under the pretence of being connected with the firm of Bayer Co., Ltd., borrowing money which he did not pay back. A man, about 36 years of age, exactly answering the description published in The Lancet, wearing gold-rimmed eye-glasses and dressed in a frock coat and a silk hat, arrived in Aberdeen on Thursday night. He called on the medical superintendent of the Aberdeen Royal Lunatic Asylum and produced letters of introduction from two well-known medical men in Glasgow. It was too late in the evening, however, to show him the institution. Next day the young man appeared at Marischal College and attended the Giffard lecture by Dr. Hans Dresch, Heidelberg, the well-known embryologist, who was dealing with cells and cell-formation in his course, the Science and Philosophy of the Organism. After the lecture the young man, who represents himself as a Prussian doctor, entered into conversation with the lecturer and with one of the university medical professors, subsequently accompanying the latter to his house in the west-end of the city. The professor stated that he would show the visitor over Marischal College on the following day. The professor's suspicions were aroused when the man declared himself as one of the leading medical men connected with the New York State Asylum and also as associated with the firm of Messrs. Bayer Co., Ltd., combining the professional and commercial interests. Nor did the visitor manifest the interest or knowledge expected of him on being taken through the anatomical museum, although in the anthropological museum he had a good deal to say regarding interesting specimens he had secured while in Bohemia and other countries while "doing Europe" in a motor-car. Subsequently at luncheon in the professor's house, the latter's suspicions were further aroused by the references his guest made to visits paid to eminent and Royal personages and to having been associated with the Thaw trial. Reading The Lancet after luncheon on Sunday afternoon the professor recognised that the man wanted by the Liverpool police might be his guest of the previous day. He telephoned to the house of another medical professor with whom the young man had previously intimated he was to have luncheon that day, and the answers to inquiries revealed

the fact that the visitor was in the garden enjoying a smoke. On THE LANCET'S letter having been read to him over the telephone the other professor was also convinced that the man wanted was enjoying the brilliant sunshine in the garden, peacefully smoking. Subsequently the police were informed from the asylum where the visitor was to have dined in the evening and the man was arrested at his hotel late at night. He passed the bar at the Aberdeen Police-court on Monday and was handed over to the Liverpool authorities."

A NEGLECTED TEXT.

To the Editors of THE LANCET.

SIRS,—In rejoinder to "Soberness" the name Jotham does not mean "Jot" and "Ham" but "Jehovah is upright." Also, when he says that "Jotham ran away, and fled, and went to Beer, and dwelt there," and "They go to Beer because they take to beer as a drink," he apparently does not know that "Beer" meant a "well," and that the well contained good water, as may be seen by Numbers xxi. 16, as follows: "And from thence they went to Beer: that is the well whereof the Lord spake unto Moses, Gather the people together and I will give them water." I learn that some people think that the word "God" in the line "*which cheereth God and man*" should be "gods" as the parable was addressed to the idolatrous Shechemites and that others think the word meant "nobles" or "rich"—i.e., "cheereth rich as well as poor." Yet others find an explanation in the "drink offering unto the Lord," as referred to in Exodus xxix. 40, and Numbers xv. 7. But even *sober* commentators have admitted that "These are strange words." And some have called the parable of the trees the most ancient and beautiful apologue extant.

I am, Sirs, yours faithfully,

May 27th, 1907. CEDAR.

A DIPHTHERIA PATIENT IN A PUBLIC VEHICLE.

THE district council at Brentford prosecuted a woman recently who had moved her child from one part of Brentford to another in a cab without giving any intimation to the cabman that the child was suffering from diphtheria. The defendant's husband stated that the mother herself had had the disease and there was also evidence that she had been warned by the medical man who was attending the child as to her behaviour. Before the cab used could be traced it had been twice employed by other fares. The defendant was fined £2, with costs, which was certainly not more than her reckless and selfish conduct deserved.

THE OZONAIR MACHINE.

THE commercial applications of ozone are now numerous, owing largely to the success which has attended the designing of machines which give a steady and pure supply of the gas direct from the atmosphere. Amongst the machines which produce pure ozonised air is that known as the "ozonair," by the action of an alternating electric current of high frequency on the oxygen of the air through the medium of the silent or condenser discharge. An alternating current is therefore all that is required, but if this is not available a motor transformer may be used, by which the continuous is converted into the alternating current. This machine can be made to almost any scale and, in fact, large installations have been designed for such big operations as the freeing of the air in breweries from adventitious organisms and so ensuring a pure environment and a sound beer. The machine has also been applied to the bleaching of fabrics, oils, fats and waxes, sugar, and to the purification of water-supplies. One very important feature of the ozonair machine is that the ozonised air which it produces is entirely free from irritating nitrogen compounds. The small machines, therefore, are well adapted for therapeutic requirements, as, for example, for inhalation for antiseptic treatment, and so forth. There is attached to the machine a special air filter in cases in which a very pure air-supply is demanded, as, for example, in the operating theatre. These machines are made by Messrs. Ozonair, Limited, of 27, Chancery-lane, London, W.C., at which place they may be inspected. The cost of producing ozonised air by these machines is said to be reduced to a minimum.

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D. N. T. calls our attention to a method of learning the lessons to be taught by the stethoscope which is quite a useful one but by no means new. In many of the London medical schools the artifice is habitually employed.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 30th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp.	Wet Bulb	Dry Bulb	Remarks.
May 24	29·67	S.	...	108	67	55	58	60	Raining
" 25	30·00	N.E.	0·06	121	73	60	54	57	Fine
" 26	30·04	N.	0·19	74	61	51	55	57	Overcast
" 27	30·08	N.E.	...	102	69	53	55	57	Cloudy
" 28	30·04	N.E.	...	84	68	56	55	57	Fine
" 29	30·15	E.	...	107	57	44	45	50	Fine
" 30	30 11	E.	...	81	55	46	48	53	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (5th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (6th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.). Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (8th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (4th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 30 P.M.: Communication:—Dr. Sambon. Papers:—Dr. Bayon: The Histogenesis of Goitre.—Dr. P. Weber and Dr. Bafer: Osteolipoma of Brain. Valedictory Address: The President *(Dr. Pye-Smith).*

WEDNESDAY (5th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M.: Specimens will be shown by Dr. Longridge, Mrs. Scharlieb, The President (Dr. H. R Spencer), and Dr. McCann. Short Communication: Dr. H. R. Andrews: Two Cases of Pregnancy in a Rudimentary Uterine Horn Papers:—Mr. H. T. Hicks: Primary Vaginal Embolic Chorion epithelioma.—Dr. Griffith and Dr. Williamson: A Case of Chorion epithelioma complicated by Hæmatometra.

THURSDAY (6th).—NEUROLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos street, Cavendish-square, W.).—8 30 P.M.: Discussion on Posterior Basal Meningitis and its Relation to Epidemic Cerebro-spinal Meningitis (to be opened by Dr. F. E. Batten).

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M.: Clinical Cases.

FRIDAY (7th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8.30 P.M.: Papers:—Dr. A. W. Addinsell: Chronic Metritis.—Dr. D. Arthur: The Diagnosis of Chest Diseases by the X Rays. (Both papers will be illustrated by lantern slides)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. M. H. MacLeod: Clinique. (Skin.) 5.15 P.M.: Lecture:—Dr. B. Abrahams: How to Examine the Heart (with illustrative cases).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Pathological Demonstration:—Dr. Low. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Low: Insects as Carriers of Disease in Tropical Medicine.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—9 30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M: Medical Out patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient

Demonstrations:—10 a.m.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (4th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: *Dr. L. Williams: Clinique.* (Medical.) 5.15 p.m.: Lantern Demonstration:—Mr. J. W. T. Walker: Methods of Estimating the Renal Function.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 a.m.: Dr. Moullin: Gynæcological Operations. 2 p.m.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 p.m.: Operations. Dr. Abraham: Diseases of the Skin. 5 p.m.: Clinical Lecture:—Dr. Russell.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 a.m.: Medical Out-patient (Dr. Auld). 2.30 p.m.: Gynæcological Out-patient (Dr. Giles). Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson). 4.30 p.m.: Demonstration of Cases at the Northwood Sanatorium (Dr. J. E. Squire).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 p.m.: Dr. H. T. Hewlett: Medicine. 2.30 p.m.: Operations. 3.15 p.m.: Mr. Carless: Surgery. 4 p.m.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 12 noon: Skin. 4 p.m.: Special Lecture:—Mr. M. Morris: Rare Skin Affections.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 p.m.: Demonstration:—Dr. W. Wingrave: Clinical Pathology.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 p.m.: Clinical Lecture:—Dr. Ferrier: Cases in the Wards.

WEDNESDAY (5th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: Mr. M. White: Clinique. (Surgical.) 5.15 p.m.: Lecture:—Dr. F. W. Mott: The Causes of Insanity.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 a.m.: Dr. Ball and Dr. Davies: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 p.m.: Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 p.m.: Operations. 5 p.m.: Lecture:—Dr. Robinson: Gynæcological.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 p.m.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

London School of Clinical Medicine *(Dreadnought Hospital,* Greenwich).—2.15 p.m.: Dr. F. Taylor: Medicine. 2.30 p.m.: Operations. 3.30 p.m.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 11 a.m.: Eye. 3.30 p.m.: Special Lecture:—Mr. Cargill: Optic Neuritis.

Royal Institute of Public Health (37, Russell-square, W.C.).—5 p.m.: Harben Lecture: Prof. Dr. P. Ehrlich: Experimental Researches on Specific Therapeutics.

THURSDAY (6th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 p.m.: Lecture:—Dr. F. W. Mott: The Causes of Insanity.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—2 p.m.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 p.m.: Operations. 5 p.m.: Clinical Lecture:—Dr. Davis.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—2.30 p.m.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 p.m.: Medical In-patient (Dr. Chappel).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.30 p.m.: Operations. 2.30 p.m.: Dr. G. Rankin: Medicine. 3.15 p.m.: Sir W. Bennett: Surgery. 4 p.m.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 12 noon: Ear and Throat. 2.30 p.m.: Special Lecture:—Dr. Rankin: Angina Pectoris.

Charing Cross Hospital.—4 p.m.: Mr. Daniel: Demonstration (Surgical). (Post-Graduate Course.)

University of Birmingham, Faculty of Medicine (Medical Lecture Theatre).—4 p.m.: Post-Graduate Lecture:—Dr. J. Miller: Opsonins.

Royal Institute of Public Health (37, Russell-square, W.C.).—5 p.m.: Special Lecture:—Prof. G. S. Woodhead: Blood Immunity.

FRIDAY (7th)—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m.: Dr. H. Tilley: Clinique. (Ear.)

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 a.m.: Dr. Moullin: Gynæcological Operations. 2 p.m.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 p.m.: Operations. Dr. Abraham: Diseases of the Skin. 5 p.m.: *Clinical Lecture*:—Mr. P. Dunn.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—9.30 a.m.: *Clinique*:—Surgical Out-patient (Mr. H. Evans). 2.30 p.m.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 p.m.: Medical In-patient (Dr. Leslie).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 p.m.: Dr. R. Bradford: Medicine. 2.30 p.m.: Operations. 3.15 p.m.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 12 noon: Skin.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 p.m.: *Clinical Lecture*:—Mr. Armour: Surgical Treatment of Infantile Paralysis.

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Royal Institute of Public Health (37, Russell square, W.C.).—5 p.m.: Harben Lecture: Prof. Dr. P. Ehrlich: Experimental Researches on Specific Therapeutics.

SATURDAY (8th).—London School of Clinical Medicine (Dreadnought Hospital, Greenwich.)—2.30 p.m.: *Operations.* Out-patient Demonstrations:—10 a.m.: Surgical and Medical. 11 a.m.: Eye.

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A Lecture

ON

VAGAL AND VASO-VAGAL ATTACKS.

Delivered at the National Hospital for the Paralysed and Epileptic on May 21st, 1907,

BY SIR WILLIAM R. GOWERS, M.D. LOND., F.R.S.,

CONSULTING PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL, ETC.

GENTLEMEN,—The term "vagal attacks" is, no doubt, unfamiliar to you. It seems a useful designation for prolonged seizures, the symptoms of which consist chiefly in disturbance of some of the functions of the pneumogastric, for the most part sensory and subjective. Similar attacks have been described by Pierre Bonnier as "syndromes médullaires."[1] With the vagal symptoms there is often combined a slight mental change and also disturbance of the vaso-motor centre causing constriction of the vessels and coldness, especially of the extremities. Associated with the latter may be some sensory impairment and sometimes also a form of slight tetanoid spasm. These features vary much in relative proportion, so as often to obscure the relative resemblance. When the vaso-motor spasm preponderates the case may seem to differ from the type more than it really does. Such cases may be termed "vaso-vagal." The attacks are never really brief; they seldom last less than ten minutes and more often continue for half an hour or more. There is a sudden onset of slight symptoms, rapidly increasing, and the ending is gradual. The seizures recur at varying intervals, often for months or years.

Women suffer far more frequently from these attacks, but they are also met with in men. This, and the fact that the pneumogastric and vaso-motor systems are readily influenced by emotion, has probably led to the submergence of these attacks beneath the vague conception of hysteria, a conception which conceals whatever it covers. *You must rescue* from it whatever you wish to study. You can put it back again afterwards if you like. Before describing to you some of the cases I have met with, the special symptoms may be briefly considered.

The vagal symptoms are chiefly sensations referred to the stomach, the respiratory system, and the heart. At least, we may probably ascribe to the gastric nerves a sensation referred to the epigastrium, described as a sense of oppression or of fulness, but often indescribable. It begins suddenly, irrespective of the state of the stomach or of its functions, and often seems to ascend to the chest, very seldom to the throat or head, as does the aura of epilepsy. There is seldom nausea and never vomiting. Even more common, especially as an early symptom, is a sense of respiratory distress, of difficulty in breathing. It is sometimes so intense as to amount to orthopnœa and to compel the sufferer, if lying, to sit upright, although there is no corresponding sign of impairment of breathing. With this may be combined cardiac symptoms, discomfort, acute pain in some cases, often a sensation of sudden stoppage of the heart, followed by rapid action. With the dyspnœa, or the cardiac sensation, or both, is often associated a sense of impending death, so intense that no recollection of its falsity in preceding attacks prevent the conviction of its present reality. It naturally causes alarm, but apart from this there is sometimes a sense of intense fear and dread, which is recognised to have no adequate cause.

Although there is no impairment of consciousness in typical cases, a peculiar slight mental state is common, and may even be the first symptom. It is generally described as a difficulty or slowness of mental operations, a difficulty in thinking or in concentrating attention. Trifling as it may seem, it always begins suddenly and strikes the patient as a state quite unlike the normal condition. Sometimes it involves a slowness in speaking but this seems partly due to the sense of dyspnœa. Perhaps allied to this, is a sudden sense of physical fatigue, which also is often an initial symptom.

The vaso-motor spasm sometimes attains a high degree. To it the symmetrical coldness is certainly due, for the pulse becomes small at the same time. When general, there is pallor of the face. Shivering is common and may amount to a definite rigor, but this occurs when the coldness is beginning to lessen. With the coldness of the extremities tingling and numbness in them are often described and sometimes there is the tetanoid spasm we shall consider later.

CASE 1.—A fairly typical case was a single woman, aged 28 years, whose cousin was epileptic. She had suffered for nine months from attacks that were heralded by occipital headache on waking in the morning. Some time in the forenoon she suddenly found that she could not fix her attention on any subject. After this had lasted an hour or so a sense of sleepiness came on; then suddenly she felt wide awake with an intense sense of fear, extreme coldness of the hands, feet, and legs, and inability to move. Presently a peculiar, indescribable sensation was felt at the epigastrium and back, sometimes with slight nausea. After a few minutes of this, violent beating of the heart set in, accompanied almost at once by an intense sense of suffocation. If lying she had to sit up to breathe, though there was no evidence of dyspnœa. Then the attack subsided, as a flush developed, attended by slight perspiration and a flow of tears (without any sense of emotion). The flush was accompanied by a sense of warmth, beginning in the head and passing to the arms, but with this there was always a slight distinct rigor. The teeth would chatter and the hands would shake. It was greater the more severe the attack. This soon ceased and she was well. During the attack there was a curious sense of unreality in all she saw and afterwards objects were blurred and indistinct. Some more severe attacks began with tingling in the hands and arms, face, and trunk; the epigastric sensation developed to definite nausea: the general coldness was extreme, "as if made of stone," and the violent action of the heart was preceded by a feeling that it had stopped and that she was dying.

CASE 2.—The case I have next to mention is remarkable in its features, although the true vagal *symptoms are subordinate* to the disturbance of the vaso-motor system. It is notable also from the fact that the subject of such pronounced attacks was a man, an officer in the army, aged 30 years. Two of his sisters were insane. The seizures were not frequent; they had occurred about once in six months for 12 years, ever since he was 18 years old. Their character was always the same, such as one of which I saw the later part. Earlier in the day he had been in specially good spirits, an antecedent often noted. Quite suddenly, a dreamy mental state came on, a reminiscent state, the well-known feeling that whatever was happening had happened before. It was not momentary as in epilepsy, but went on. With it, or just after its commencement, his hands and feet became cold; his own belief was that the mental state was first noticed. With the coldness, his face became increasingly pale and physical prostration set in, speedily reaching such a degree that he was scarcely able to move. If he tried to sit up he fell back at once. His extremities became icily cold, even to an observer. So great was the prostration that he could only utter one or two words at a time with an effort (apparently from the respiratory difficulty in phonation). His pulse became smaller and smaller, until it was hardly perceptible. There was not a moment's loss of consciousness throughout. His own sensation was that he was dying, gradually passing out of physical existence. This state lasted about half an hour and then he gradually became aware simultaneously that his mental state was improving and that his feet were a little less cold. The amelioration went on, but two or three minutes after its commencement a distinct rigor set in, with shivering and chattering of the teeth. It lasted about two minutes and always occurred at this stage, coincident with gradually increasing warmth. A few minutes after the rigor an urgent need for micturition was felt and went on during the rest of the day, a large quantity of limpid urine being passed. No sense of undue warmth or rise of temperature followed the attack; indeed, he continued pale for the rest of the day. Treatment arrested the attacks almost at once (as will be presently mentioned) and 17 years afterwards I ascertained that his recovery had been enduring. Although he had been in India and had suffered from malaria before the age of 30 years, this could not have been the cause of the rigor, because it was a feature of the attacks from the beginning, before he entered the army.

It is instructive to compare these two cases. Although isolated vagal symptoms were not conspicuous in the second, both present certain features in common—an initial slight mental change, the sense of impending death, the coldness, and the shivering as this was beginning to lessen. While it may be thought possible that in some vagal cases I shall mention the feeling of coldness may have been a sensation only, independent of the vaso-motor system, in this case it cannot be thus explained. The vaso-motor derangement was obtrusive and we shall see that in other instances it was equally clear. Whether the physical enfeeblement was due to the participation of the brain in the vascular spasm we cannot say; the general character of the case suggests it. The difficulty in speaking, if of respiratory origin, is another point in common with other cases. When these have been described and considered I think it will not be doubted that this case is closely allied to the others.

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[1] Pierre Bonnier: Le Vertige.

CASE 3.—Let me mention, as briefly as I can, some other examples of vagal attacks. The sense of impending death, so frequent in severe forms, seems connected with disturbance sometimes of the cardiac, sometimes of the respiratory functions of the vagus, or with both. In its cardiac associations it naturally arouses a suspicion of angina pectoris. It did so in a man of 39 years, who had suffered since the age of 33 from occasional momentary giddiness, even when sitting still, suggestive of the slightest form of minor epilepsy. Six months before he was seen these ceased and were replaced by peculiar and more prolonged attacks. First he felt a sensation of slight pricking in his hands and feet, combined with a cramp-like feeling; they became colder and colder, and his face grew pale. After about a minute he felt at the heart a peculiar sensation, which he could not describe, accompanied by intense fear and a feeling that he could not get his breath. So intense was the sense of distress that he "hardly knew where he was," but he was certain that he never lost consciousness. After about five minutes in all the attack gradually passed away. The fact that no pain attended the sense of thoracic distress is a sufficient distinction from true angina pectoris, for which it had been mistaken. Sensations are often called pain which careful questioning shows to be different, and this always implies a different significance.

CASE 4.—The two cases that follow are of similar character. They exemplify, moreover, a relation of these attacks to preceding migraine which is not uncommon. A married woman, aged 47 years, with gouty heredity, had suffered from characteristic migraine as long as she could remember. For two years she had been liable to peculiar attacks at intervals of a few days or longer, even as much as two months. A distressing sensation at the epigastrium, described as "fulness" or "oppression," came on quite suddenly and ascended to the middle of the chest; it was attended by an extreme sense of prostration, but there was no pain or nausea. Her heart became excited and her pulse, usually 90, rose to 120; the face became pale, and the extremities cold and clammy; the were hands so insensitive that she could hardly feel what she touched. There was no impairment of consciousness and after ten minutes the attack gradually passed off.

CASE 5.—In another woman, aged 52 years, also subject for long to migrainoid neuralgia, attacks occurred which began with a sense of dyspnœa followed by coldness, especially of the feet, and a sense of "numbness" which passed up the legs and body and involved the arms. The hands became dusky and fixed, with the fingers flexed. Sometimes she was unable to speak for a few minutes. The attack lasted about half an hour and ended gradually.

Coldness in the extremities is often, as I have said, attended by tingling in them and some defective sensation and also by a tendency to tonic spasm. The last is like that of tetany except that the posture of the fingers is different from that of typical tetany, the fingers being flexed at all joints, a position sometimes assumed in the ordinary form. This spastic feature is conspicuous in some vagal attacks apart from vaso-motor spasm.

CASE 6.—One case in which it was marked had given rise to much doubt regarding its possible epileptic nature. A lady, aged 25 years, had married at 19 years of age and had borne five children during the next four years. The attacks began after phlebitis subsequent to her last confinement, at the age of 23 years, and had continued since, sometimes as frequently as two or three each week. Each began by a sense of difficulty in breathing and coldness in the hands, with some tendency to contraction in them. In a few minutes pain was felt at the heart and the sense of dyspnœa increased and there was a slight flush on the face. From the onset objects seemed far away, and sounds faint and distant; she was also conscious of an inability to think and a difficulty in finding words; "it was a bother to speak." In one which I saw she uttered only two or three words at a time, as if she could not get enough breath for speaking, and her aspect was distressed. In this there was no evident contraction of the hands but she was constantly trying to bend back the fingers of one or the other hand, as if from a feeling of cramp in them. Severe attacks began with deep breathing and sometimes the sense of dyspnœa compelled her to sit up, with deep flushing of the face but no duskiness. The hands became very cold, with strong flexion of the fingers. The duration was from five minutes to a quarter of an hour. She never lost consciousness, even for a moment.

The symptoms of this case are typical, and the conscious difficulty in thinking, as an early symptom, is of interest in connexion with the similar symptom in Case 1. The symptoms were peculiar in the dominant tetanoid contracture, which was out of proportion to the vaso-motor spasm. I learned later that the attacks gradually lessened until she became almost free but were subsequently renewed by an alarming carriage accident.

CASE 7.—An instructive connexion between *ordinary* paroxysmal tetany and the vagal form was presented by a married woman, aged 31 years. A year before she had a long attack of gastric catarrh, with vomiting, in the course of which she had a severe attack of tetany, lasting six days, accompanied by elevation of temperature to 102° and 103° F. and a feeble pulse. The fingers were in flexion at all joints, as is sometimes the case in the ordinary form. The gastric symptoms passed away but she had another attack of tetany a month after, much shorter, a third three months later, and a fourth after another four months. The latter two attacks lasted only a few hours. Each began with an unpleasant sensation at the epigastrium, followed in a few minutes by contraction on both sides of the face, with the mouth open; the tonic spasm passed to the arms and hands and down the legs to the feet, which were fixed in extension, the fingers being flexed. As this developed, the epigastric sensation passed to the thorax generally and became intensely distressing, giving the impression that she was about to die. Brief remissions occurred during the attack, which, after a few hours, passed off in the opposite order to that of the onset. For some days before an attack she experienced, for a few minutes at a time, slight premonitory symptoms. A brief sensation at the epigastrium, with some nausea, seemed to her to pass into the limbs and to cause slight rigidity in them. These symptoms occurred without relation to food or external circumstances. In the severe attacks the passage of the sensation to the thorax was not attended by dyspnœa and the sense of impending death was not apparently the result of spasm but resembled that experienced in severe vagal attacks.

RELATIONS TO EPILEPSY.

The cases I have described present no definite relation to epilepsy. The symptoms were deliberate, slow in evolution, unlike the sudden flash-like character of the elements of the epileptic attack. But we meet with cases that seem to connect the two classes and to establish the position of even the vagal attacks in the borderland of epilepsy. The features of such cases must be individually studied, for they do not admit, at present, of clear generalisation.

CASE 8.—One patient, when a girl of 13 years, began to have attacks at intervals of a day or a week. Each began with a sudden feeling of intense fatigue and giddiness—a sensation that objects were moving swiftly to the left and changing in colour to purple and red. The feeling made her inclined to fall, but in a few seconds it was over. Note that the colours, as well as the initial sense of fatigue, distinguish the attacks from simple vertigo. She had also occasional severe headaches, without sensory prodroma. These went on until the age of 16 years. She was first seen then, but not again until she was 28 years old. She had married in the meantime and the attacks, which had ceased after she was seen, subsequently recurred in a somewhat altered form, which is peculiarly instructive. Each began as before by a sudden sense of fatigue, which was not followed by the sense of movement and of colours, but by a second's loss of consciousness; sometimes this was only loss of sight, a moment's sudden absolute blackness. These made more emphatic the epileptic nature of the attacks. After another year their character had again changed. The sudden sense of fatigue was followed by yawning, several times repeated, and then loss of consciousness for a second or two, after which she was well. But she did not always thus lose consciousness; sometimes the yawning was followed by a sense of want of breath amounting to distressing suffocation and also by a sensation of peculiar distress below the heart. The effect of these was to make her feel that she must keep perfectly still or she would faint. If she kept quiet the sense of suffocation continued for an hour, or even for two hours, before subsiding, but at any time during its course it might be suddenly ended by a moment's loss of consciousness. The attacks came on when awake or asleep, but if sleeping they were always of the early brief form. She waked up with the sense of fatigue, at once lost consciousness for a moment, and was better. By day they often occurred when sitting still, but sometimes they were excited by rising suddenly from the sitting posture. The brief attacks were clearly epileptic. In those of long duration a vagal symptom was interposed, the respiratory and cardiac distress, which endured for long, but was at any time terminated by a moment's loss of consciousness; this seemed at once to relieve the state of brain tension that caused the distress. We can perceive the mysterious relation, although we cannot explain it. The important fact for our present subject is the interposition of prolonged vagal symptoms in the course of an epileptic attack, as if symptoms, usually momentary, as the aura of epilepsy, became protracted, extended as it were, into a vagal attack.

CASE 9.—The following case is similar but differs in that the loss of consciousness did not end the attack but was interposed between the vagal and the vasal symptoms. A married woman, aged 35 years, without neurotic heredity, had suffered for two years. The attacks occurred at intervals of ten days to two months, always without excitant, often when sitting still. A sudden intense sense of suffocation, with a feeling of tightness in the head, was followed, after a minute or so, by a moment's complete loss of consciousness. On its return she felt cold, first and most in the extremities. The coldness was so intense that it made her shiver. After about ten minutes she burst into perspiration and simultaneously her heart began to beat violently and the symptoms slowly subsided. Most attacks were similar, but she occasionally had one that was much slighter and consisted only in a brief sense of suffocation.

CASE 10.—With the last case it is instructive to compare another. A woman, aged 28 years, had suffered from attacks for three years, at first at intervals of two or three months, then more often, until of late she had two a week. A sudden sense of great fatigue, succeeded by coldness, was followed in a minute or two by dimness of sight and then loss of consciousness, so sudden as to cause a fall, always backwards. There was no convulsion. After five minutes consciousness began gradually to return. First she could hear loud sounds, then voices, at first indistinctly. Then objects could be seen as in a fog, afterwards clearly. The process of slow recovery occupied about half an hour. But the most significant fact is that she had also slighter attacks with no loss of consciousness, lasting half an hour and closely resembling those of "vagal" character. There was a sudden sense of dyspnœa, respiratory distress, and of faintness, accompanied by a sensation of coldness, especially in the face, on which "icy air seemed to be blowing." Sight became rather dim, and when it slowly returned objects seemed unreal, "as if in a picture." Thus the patient seemed to suffer from epileptic attacks and also from those of the class now considered, but the two were not entirely disconnected in their features.

The case I just now described, in which prolonged respiratory distress was instantly terminated by a moment's loss of consciousness, is suggestive for another reason. We must regard it as epilepsy, but it was a minor attack extended, protracted, drawn out as it were, so that the initial sensory stage, instead of being momentary, often continued for a long time. It might even subside without the usual loss of consciousness. It is foreign to our thoughts to conceive the idiopathic epileptic attack as capable of extension, and yet we know that the aura varies in length and we have no reason to believe that it cannot be prolonged. In local attacks from organic disease, we meet with some that are prolonged, either as sensory discharge or as clonic spasm. The slighter attacks may sometimes endure for a quarter of an hour or longer. In these the tendency for consciousness to suffer is not great. In vagal attacks the symptoms, respiratory and cardiac, which are gone as soon as felt in a true epileptic seizure, seem to be most distressing when prolonged. This can readily be conceived. Full perception is not momentary and with time there seems to be what physiologists term a "summation of sensation," even of that which is purely subjective.

These facts suggest that if we can conceive a minor epileptic attack that is extended, its elements protracted, with no tendency to be terminated by loss of consciousness, its features would be so different that its nature would not be suspected. Velocity altogether alters the effect of momentum. A bullet fired from a rifle makes a round hole in a pane of glass, which it would smash if thrown against it. Velocity is an essential element of ordinary epilepsy, but this does not preclude the possibility of deliberation in attacks not far removed from epilepsy.

I will conclude with the description of an attack of slow deliberate character which has some features in common with those that merit the term "vagal," and yet differs from them in its more pronounced subjective emotional distress. It is easily regarded as hysterical, but even then its features deserve consideration.

CASE 11.—The subject was a married woman, aged 35 years. Her nervous system was unstable and excitable in a high degree, such as to suggest any kind of hysterical disturbance. Yet throughout her life she never had any ordinary hysterical attack. She was apprehensive of evil in a degree that made her life distressing to herself and perplexing to others. In childhood she had some attacks that seemed to be definite *petit mal*, with loss of consciousness so sudden as to cause her to fall in each. They ceased after childhood, but there were subsequently occasional, but rare, threatenings. When 33 years old she had another definite minor seizure; there was a sudden sensation of intense coldness at the vertex; she instantly fell unconscious, but at once recovered. The special attack with which we are concerned occurred two years later, after some mental anxiety. She was feeling well, and was occupied as usual, when she had a sudden strange sensation that her mind was acting slowly; an effort was needed to understand what was said to her. This difficulty increased and extended, so that in a quarter of an hour all about her seemed strange and unfamiliar, and an observant nurse who was present averred that for a short time she clearly did not know where she was. She walked into the garden but became worse rather than better. Then, quite suddenly, some intense physical sensation occurred which gave her the impression that she was dying. She begged that her husband should be called in order that she might say farewell to him, although he was then far away. This seemed to mark the turning point, for in a few minutes the physical distress lessened and she began to improve, but for an hour more, when spoken to, she seemed to hear the words at once, but could only grasp their meaning slowly and with considerable difficulty. At the end of one and a half hours from the onset she was quite well again. Throughout, the nurse closely observed her and could see no pallor, while her pulse was unchanged in frequency or strength. It was afterwards ascertained that, besides the indications of minor epilepsy already mentioned, she had experienced, many times during her life, and two or three times during the previous year, a sudden sense of strangeness. For a moment she did not know where she was. Once she seized her husband's arm and exclaimed, "Oh, where am I?" but almost as soon as the words were uttered the feeling was gone. This is a familiar form of minor epilepsy. A significant fact is that she recognised the identity of this momentary sensation with that which developed gradually in the prolonged attack. This, as I said, may easily be regarded as hysterical, but its features suggest that its nature was rather that of a prolonged slow cerebral process which, if condensed into a few seconds, might have involved loss of consciousness and have been a characteristic attack of minor epilepsy. It was attended by intense distress to the patient and left her with constant dread of a recurrence, but this had no effect in producing one. If its features are compared with those previously described it will be found to present two characters in common with them. It began with the strange sense of a difficulty in mental processes, which continued, and is, as we have seen, common in vagal attacks. It also presented the sensation of impending death, which was probably produced in some way through the vagal functions. Perhaps the term "psycho-vagal" would be the most accurate designation for such an attack.

TREATMENT.

In the treatment of sufferers from such attacks it is, of course, essential to discover any defect in the general health and anything in the conditions of life that involves strain on the nervous system and to put these right as far as may be possible. Conspicuous anæmia is not often to be found, but constipation is common and harmful, especially with its attendant indigestion. It is very seldom that any exciting cause can be traced for the attacks that can be avoided but it is important that the patient should be free from all causes of over-fatigue. When an epileptic element can be traced much good is usually obtained from bromide in moderate doses, combined with belladonna or digitalis. Nitrite of amyl deserves a trial at the onset of attacks and a slight inhalation of chloroform if the opportunity presents itself. But in all cases in which there is vaso-motor spasm the regular administration of nitro-glycerine is by far the most useful agent. Taken regularly, although no effect may be perceived from it at the time, it seems to exert a permanent, steadying effect on the vaso-motor centre, and strychnine may be combined with it with advantage. A striking instance of its effect was presented by the patient with such severe coldness and prostration (Case 2). In his own words it seemed to act "like a charm." He had no other attack and after taking it regularly for many months it seemed to leave him free from any tendency to those which had gone on for 12 years. Nerve tonics, such as phosphorus, quinine, and valerianate of zinc, are sometimes useful.

ABSTRACT OF

An Address

ON

THE NATURE OF INFECTIVITY IN RELATION TO TUMOUR GROWTH.

Delivered in the Section of Pathology and Bacteriology at the First Australian Dental Congress, Sydney, in February, 1907,

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The infective nature of tumour growth.—When bacterial cells gain access to the animal body one of two things may happen—either they are antagonised and are killed off by the defensive mechanisms of the tissues or the resisting powers of the tissues are overcome by the numbers and virulence of the bacteria. In the former case the bacteria disappear from the body and no infection occurs; in the latter case the bacteria thrive and multiply in the tissues and the animal is said to become infected. The essence of the process of infection, therefore, is that the bacterial cells concerned have entered the tissues and have begun to multiply there. A disease which depends upon the proliferation and multiplication of alien cells within the animal body is termed an infective disease, and if, in addition, the disease is capable of being transmitted from one animal to another (by transference of the infective cells) it is spoken of as infectious. A disease may thus be infective—that is, due to invasion and proliferation of hostile cells—without being infectious—that is, transmissible to other animals. To this category, as we shall presently see, cancer may be said to belong.

For our present purpose the ultimate unit in a cancerous growth may be taken to be the individual cancer cell, and although each cancer cell is the direct descendent of some pre-existing cell within the organism in which it grows, nevertheless the cells of a cancer become at a very early stage differentiated and sharply marked off from all the other cells of the organism. Whereas the cells of the healthy animal body are all working for the common good, the growth and activities of each tissue and cell being so conditioned and regulated as best to attain this end, the cancer cell appears as a seceder from this commonwealth. The growth of cancer proceeds independently of, and, indeed, at variance with, the requirements of the organism and, further, the regulated and orderly growth of the parent tissue is exchanged for the unregulated and disorderly growth of the tumour. The absolute nature and extreme degree of this two-fold independence—independence of the needs of the organism and independence of the laws of tissue growth—are the basis of that hostility so characteristic of cancerous tumours. Although bearing a most intimate developmental relationship to the cells of the parent organism or tissue the cancer cell is essentially hostile, just as hostile, for example, as bacterial cells may be when they effect a lodgment in the tissues.

There is yet a third manifestation of independence exhibited by cancer cells, inasmuch as they grow independently of one another. Particularly is this the case at the advancing margin of a cancerous growth, where any one cell appears to be equivalent to any other, and all are mutually independent. So far as we know any one cell detached from the advancing margin is capable of starting a secondary nodule in another part of the body, and it is as untrammelled in its growth as, in similar circumstances, a pathogenic bacterium would be. There is thus a close parallelism and a suggestive analogy between the general characters of cancer cells and the general characters of bacterial cells. For whatever the ultimate nature of cancer may prove to be, this at least is certain, that it constitutes an invasion of the organism by a brood of independent and hostile cells, and that once these cells have made their appearance within the organism they may undergo a practically indefinite and unlimited multiplication and proliferation. But these are precisely the conditions that go to make up the process of infection, and so we reach the general conclusion that, in a very definite and intelligible sense, cancer is an infective disease—as certainly infective as any disease due to an invasion of the organism by other parasitic cells, whether of bacterial or of animal origin (as in malaria and in trypanosomiasis). This is not a new theory; it is merely a re-statement of accepted facts, marshalled, I trust, without distortion. So far as I can conceive the nature of cancer growth, this attribute of infectivity is fundamental and the recognition of it is independent of any hypothesis that may be formed regarding the origin of cancer. To my mind, also, a due appreciation of the infective nature of cancer tends, not to confuse, but to coördinate certain phenomena of tumour growth, such as relative malignancy, which otherwise are hard to apprehend.

One hypothesis regarding the origin of cancer, widely known as the "parasitic theory of cancer," is suggested by the analogy between cancer cells and other bacterial or animal parasites capable of producing disease. This hypothesis is based on the observation that cancer cells not infrequently contain within their substance peculiar bodies, "cell-inclusions," which bear a more or less close resemblance to certain low forms of organised life. It is assumed that these appearances represent stages in the life-history of some parasitic micro-organism which has invaded the cancer cell, and it is suggested that the malignant proliferation of cancer cells is induced by some stimulus supplied through the agency of the minute parasites within them. It may be that the cause of cancer will ultimately prove to be some parasitic microbe infesting its cells. As yet, however, this is far from being an established fact, and the hypothesis has the further demerit of being hard to reconcile with some of the known facts of tumour growth. But *our point* is this, that although the existence of a specific cancer parasite is at the best doubtful, the existence of the parasite, cancer, is beyond a doubt. It is not in the commonly accepted sense, therefore, that I would advocate a "parasite theory of cancer"; what I would emphasise is the fact that the cancer cell is in itself a parasite and is endowed with that formidable attribute of the more highly pathogenic parasites—the attribute of infectivity.

The non-infectious nature of tumour growth.—Two of the most serious obstacles to the scientific study of tumour growth have been the impossibility of originating a new growth by any artificial means and the difficulty of transmitting a new growth from one animal to another. The former has not even yet been overcome, the latter only within recent years. Up to the year 1902 (I am quoting from a previous address of mine on this subject) only a few isolated instances of successful transplantation of tumours from one animal to another had been recorded. The first to achieve systematic success was Professor Jensen, of Copenhagen, whose results were not made generally known until 1903. In the same year Borrel of Paris published another series, and in 1904 there appeared the first scientific report of the Imperial Cancer Research Fund, in which further examples were noted. All these successful results were obtained by transplanting tumours of mice to other mice. In the case of no other animal, with the single exception of the rat (which is of the same genus as the mouse), has the transplantation of new growths been successful.

Jensen's original tumour growing in a white mouse was regarded by him as an epithelioma. Introduced into other mice it yielded from 30 to 60 per cent. of successful inoculations and it has proved to be one of the most readily transmissible of all new growths hitherto tested. It is still growing, like a pure culture of bacteria, in various laboratories on the continent of Europe, in England, and in America, the medium on which it thrives being successive generations of mice. In its duration of life (five years) it has nearly doubled the natural term of life of a mouse and in bulk it has exceeded that of many thousands of mice. This great power and persistence of growth are equalled only by the natural propagation of successive generations of mice and indicates a source of potential vitality in the cells of the cancer comparable only to that which secures the continuance of the race.

Having regard to these considerations and bearing in mind also that cancers have never been transferred from man to other animals, nor, indeed, from any animal to another of different species, we must admit that the transmissibility of cancer is exceedingly restricted—that, as a matter of fact, it is limited to the occasional experimental infection of one small rodent from another by direct inoculation with living cancer cells. Nevertheless, evidence of endemic outbreaks of cancerous, or cancer-like, tumours among various animals has from time to time been advanced. Hanau and Loeb in rats, Borrel and Michaelis in mice, Cooper and Loeb in cattle, Pick and Bonnet in trout, have each reported instances of the appearance of cancer affecting so large a proportion of animals in one place as to suggest some common source of infection. More recently Gaylord has submitted certain facts which suggest that infected cages may be the source of spontaneous cancer developing among small caged animals, including rats and mice. And, in regard to the liability of the human subject, the existence of "cancer houses" and "cancer districts" in which there occurs a succession or an undue proportion of deaths from cancer has repeatedly been alleged. I would not criticise adversely statements advanced by able and competent observers, which I have no means of testing for myself, further than to point out to you that many cancer-like tumours are admittedly infectious, that they are often hard to distinguish from true cancers, and that much of the evidence above quoted is open to the objection that the tumours either were not examined at all, or were not convincingly differentiated from infectious non-cancerous growths.

In approaching the study of a subject so vast, so elusive, and so occult as that of the nature of cancer we must be particularly careful to keep our minds free from bias and to avoid precipitate conclusions We must be prepared to admit all evidence on its merits without discounting its significance by reference to our preconceived notions. We must, for example, hold ourselves intellectually in readiness to accept the possibility that cancer may be due to the agency of some parasite or that cancer may be naturally infectious. With this proviso, however, and with the evidence before us, I am bound to confess that, in respect of human forms in particular, I fail to discern any cogent reason for regarding cancer as an infectious disease.

The nature of relative malignancy.—It is customary to divide new growths into two groups—the simple, benign, or innocent on the one hand, and the malignant or cancerous on the other. The more opportunities I have for the study of tumour growth the more am I convinced that all new growths are essentially malignant, though all are not equally malignant. The differences recognisable in their mode of growth are differences in degree and not in kind, and all degrees are possible. The most benign of tumours possesses, though in lesser measure or in modified form, all the fundamental attributes and capacities with which the most malignant new growth is endowed. From a clinical standpoint it is of the utmost importance to be able to say whether a growth is of a low order (benign) or of a high order (malignant) of malignancy; but from a scientific point of view it is no less important to recognise that the distinction does not mark any fundamental difference between the two classes of new growth. Malignancy, as I understand the term, is only another expression for infectivity, an attribute common to all forms of new growth, but developed to a variable degree in different forms. Clinically "malignant" growths are made up of cells whose infective capacity is high; clinically "benign" growths are composed of cells of low infective capacity.

We can best understand how the malignancy of a new growth is determined by its infectivity if we have recourse once more to the analogy furnished by bacteriology. Among infective diseases marked differences exist as regards the distribution of the causal bacteria within the body and as regards their capacity for infection. In some infections the multiplication of the bacteria is localised, and the microbes are restricted to the original site of infection, as in the case of a small local abscess. In other conditions the bacteria are not so restricted, but may extend widely into the adjacent tissues, as in cases of spreading inflammation or suppuration, though they may not appear in the blood or in remote tissues until just before death. In yet other circumstances whether the local proliferation be restricted or extended, the bacteria may show a special tendency to enter the lymphatic or the blood channels and thus to give rise to widely disseminated lesions, as in tuberculosis or in pyæmia. Every one of these types of lesion, apparently so diverse, may be produced by one and the same organism, according as its virulence—in other words, its capacity for infection—is modified.

Now the phenomena of tumour growth present may close analogies to these phenomena of bacterial infection. Some new growths remain localised and their component cells show little or no tendency to infiltrate (infect) adjacent tissues, nor do the growths tend to recur after removal. In others the cells are prone to local infiltration (infection) and the growths to inveterate local recurrence, but they may not give rise to secondary nodules until late in the course of the disease. In yet others the tumour cells, in addition to local infiltration, may have developed a special tendency either to extensive lymphatic infiltration or to invasion of blood-vessels, in the former case originating a widespread lymphatic infection, as in tuberculosis, and in the latter case causing the dissemination of secondary embolic growths analogous to pyæmia. In fact, if for the word "bacterium" we substitute "tumour cell" and for "inflammation or suppuration" we speak of "tumour growth" we obtain a corresponding series of statements which are in accordance with the main facts of tumour growth, and we are in a better position to understand that, just as in the case of bacteria, so also in the case of tumour cells, it is their capacity for infection that conditions the extent and manner of their dissemination within the body. What we denote "virulence" in respect of bacteria becomes "malignancy" in respect of tumour cells, and each expression may, for our present purpose, be regarded as equivalent to "infectivity." The effective malignancy of a new growth, however, may be modified by the physical conditions of its structure. Some of the more malignant forms may be largely restricted to local manifestations of malignancy because of the structural cohesion among the individual cells and the physical difficulty of their becoming detached from the parent mass.

The local and the general reaction.—In many bacterial infections the proliferation of the bacteria induces a local reaction and proliferation of tissue cells which may thus come to form a localised swelling or "tumour." But it is not in this sense that the term tumour is employed in reference to cancers and other new growths. In the so-called "tumours" of bacterial origin the bulk of the bacteria is practically negligible and the mass is made up of proliferated tissue cells and other inflammatory products; whereas in the tumours proper, including cancer and other forms of new growth, the mass may consist almost entirely of the infective tumour cells, although in many cancers the products of tissue reaction may come to bulk more largely than the cancer cells themselves. Other differences between cancerous and bacterial infections may be correlated with differences in the nature of the infecting agent. Thus cancer cells, unlike bacterial cells, are the direct descendants of cells within the organism. Probably on account of this intimate genetic relationship they induce a less marked reaction on the part of the organism than do the alien bacterial cells. For example, while cancer cells may induce a local inflammatory reaction greater than that associated with some bacteria, they do not appear to stimulate that general reaction on the part of the organism which is so prominent and characteristic a feature of most bacterial infections that recovery is the rule and death the exception. The elaboration of anti-substances in response to a cancerous infection is correspondingly defective, no recognisable immunity becomes established, and spontaneous recovery is exceedingly rare. The fact that the infecting cells of cancer claim kinship with the infected organism may be the cause of the deplorable uniformity with which untreated cases progress to the inevitable end.

The origin of the infective cells.—The probable origin of infective tumour cells within the animal body is indicated by certain biological considerations which we can only briefly pass in review. In the first place we note, from clinical observation in man and from the experimental propagation of Jensen's mouse tumour, that cancer cells are endowed with great vitality and longevity; that, indeed, they appear to possess a reserve of vital energy in excess of that retained by the natural tissues of the body. The second point is that in their manner of growth cancer cells appear to be liberated from the conditions that regulate normal tissue development, that they are a law unto themselves, that they form independent and autonomous growths equivalent to a new individual or rather to a swarm or brood of new individuals parasitic upon their host. Hence, two of the first questions that present themselves are: "Whence this vitality?" and "Whence this autonomy?" A sudden increase of vitality among higher animal cells (of which cancer cells are but a particular variety) is naturally effected by the conjugation of two mature reproductive cells of opposite sex. No other circumstance, so far as we know, is adequate to initiate that new generation of cells which we recognise as a new and independent individual and which alone is endowed with an accession of vital energy. In the higher animals and plants this process of cell conjugation does not take place except between cells specially set apart in the reproductive tissues and specially prepared by a succession of peculiar nuclear divisions, termed maiotic divisions. These nuclear divisions are of so definite a character that they are unmistakeable, and, with a few recognised exceptions, they make their appearance only in the reproductive tissues and only in the cells which are attaining maturity. Now these distinctive forms of nuclear division may be encountered in the dividing cells of early cancerous growths (Farmer, Moore, and Walker). You will at once recognise that this is a most significant circumstance, indicating, as it does, that the cancer cells have assumed one of the fundamental characters of reproductive tissue and that some at least have undergone a process analogous to that which in the reproductive tissues of higher animals is universally found to be an invariable preliminary to cell conjugation. This analogy is reinforced by the further observation that the "cell inclusions" of many cancer cells closely resemble bodies which naturally make their appearance within certain reproductive cells at a certain stage of development (Farmer).

Again, the laws of natural growth are very definite for each tissue and the special laws of any one tissue appear to be equally impressed upon all the cells that develop from it and to form part of their natural heritage. But in the unnatural growth of cancer there is the anomaly of cells descended from tissue cells but growing at variance with the conditions that regulate the development of the parent cells. The only consistent biological explanation of this independence and autonomy would be that the cells differentiated off as early cancer cells should conjugate with other cells inheriting and conforming to other conditions of growth. A truly remarkable fact in the life-history of cancer is that such a process suggestive of cell-conjugation has actually been observed. At all events, an interchange of nuclear matter, which may be regarded as equivalent to conjugation, has been shown to take place between developing cancer cells and emigrated leucocytes (Farmer, Moore, and Walker), and it has also been demonstrated that the leucocyte is peculiar among the normal non-productive cells of the body in having already undergone nuclear divisions peculiar to cells undergoing preparation for conjugation (C. E. Walker). It is possible, therefore, that the fully developed cancer cell may be the offspring of a fixed tissue cell and of a wandering leucocyte, both cells having undergone the nuclear metamorphoses of reproductive tissue. Should this be so it is only reasonable to expect that the resultant cancer cell should participate in the varied capacities of its twofold heritage. Hence may be the reason why the cancer cell, while retaining many of the structural features of the tissue of origin, has come to acquire in so high a degree the additional capacity for wandering, for infiltrating, for infecting.

To recapitulate, then, we find that certain biological phenomena emerge from this recent work on cancer. We find that certain forms of nuclear division appear early in cancer cells, that such nuclear divisions are found only in cells of reproductive tissues preliminary to maturation (and in leucocytes), and that nuclear exchanges (conjugations?) take place between wandering leucocytes and developing cancer cells. Now, can we go further? Can we point to any condition which might predispose a group of tissue cells to assume the character of reproductive cells? As a matter of fact, there is evidence that two conditions are commonly present—one general and the other local—both of which may possibly influence this transformation. The general condition is a chemical change in the reaction of the body fluids. It has been shown that developing cells may be induced to undergo increased and abnormal nuclear divisions when the chemical reaction of their environment is altered and when, in particular, the alkalinity of the medium is increased (Moore, Roaf, and Whitley), and there is evidence that the body fluids of a cancer patient commonly exhibit this increased alkalinity (Moore, Alexander, Kelly, and Roaf). Hence it may at least be said that the body fluids of a cancerous subject are commonly in a condition which independent biological research has shown to be favourable to abnormal nuclear transformations.

The local condition is indicated by the fact that the primary appearance of cancer in any tissue is most frequently associated with the senescence of that tissue. This is not strictly the aging of the tissue but the advent of the period of its functional desuetude. Of the many factors that may be supposed to influence the appearance of new growths the senescence of the tissue of origin is probably the least variable. In all probability, too, the influence of local irritation is exercised in the induction of premature senescence. It is, therefore, not improbable that in some way the senescence of the tissue is related to the appearance of reproductive divisions in certain cells. It is not impossible that, as the period of functional activity draws to a close, the tissue is induced by some obscure biological stimulus to make preparations for self-propagation, which preparations we may designate unnatural or perverted, since they occur in cells not specially set apart for reproduction but which may in reality be the natural expression of a fundamental biological law. It may be that at the root of the cancer process there is this inherent paradox that in trying to achieve immortality for the cells of one tissue it precipitates the death of all.

THE TENTH CONGRESS OF THE PIROGOFF SOCIETY.—The tenth Congress of the Pirogoff Society, a society of Russian medical men, has just been held. About 1000 medical men were present, besides about 2000 invited guests. The President of the society, Professor Rein, opened the proceedings and the President of the congress was chosen in the person of Professor Salasckin, honorary president of the Women's Medical Institute, after which the congress divided into groups to discuss special subjects. It on this occasion celebrated the twenty-fifth year of its existence. The course of its deliberations does not appear to have been marked by any specially noteworthy event and the series of sittings was closed quietly. It was decided to convene the next congress in 1909 at Odessa.

BRITISH HOME FOR INCURABLES.—A festival dinner in aid of the British Home and Hospital for Incurables at Streatham was held at the Prince's Restaurant, Piccadilly, on May 28th, when Lord Cheylesmore presided. In proposing the toast of "The Hospital" the chairman urged the need for wider support from the public. The benefits conferred by the institution were far-reaching and those who received the benefits of the charity were suffering through no fault of their own from incurable diseases. Canon Fleming said that the charity was doing a really pathetic work which commenced where the metropolitan hospitals left off. The British Home for Incurables, which was instituted in 1861, assists those of the middle class who have formerly lived in comfort and respectability but who have been reduced by incurable disease. Besides providing a home for those suffering from incurable disease, it gives pensions of £20 a year to those who are incurable but not wholly destitute, and who desire to reside with their friends. A sum of £15,000 a year is needed to pay the monthly pensions and to maintain the home. Since the institution of the charity, 330 incurable cases had been received in the home and 968 persons had received pensions of £20 a year. Subscriptions and donations amounting to £2345 have already been received as a result of the dinner.

SOME PHYSIOLOGICAL EFFECTS OF HIGH-FREQUENCY CURRENTS IN DISEASE.[1]

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ON the introduction of high-frequency currents into medical practice a great, if not the whole, impetus came from D'Arsonval's laboratory experiments. So much did the results obtained by him lay hold upon the medical mind that men of even ordinary enthusiasm were carried away by them. What, it was asked, could high-frequency currents not do? Whilst we were assured that no harm could result from these currents we were told that by their use blood pressure fell, and then rose, remaining at a higher level, that the amount of urea was increased, that the quantity of urine became greater, that the relation of the purin bases to the urea more nearly approached to the normal where the relation had been abnormal, that the amount of exhaled carbonic acid was higher, that the muscular system was invigorated, &c. The dramatic physical effects appealed also to the ignorant and the excitable, and so there was a boom in this new marvel of therapeutic potency. The whirligig of time, however, as usual, brought its revenge. From high hopes as to its possessing a power to do everything, disappointment followed disappointment, till it became a question with honest men whether it was, after all, worth the time and expense. Was it indeed capable of doing anything? True, some wonderful cures were effected—cures where drugs had failed and where prolonged holidays had failed; and the conclusion seemed justified that, after all, there must be something in it, if only this something could be got out of it. This position of hopeful scientific scepticism was my own, after one or two years' experience of high-frequency currents.

The original experiments on its efficacy on the rabbit, the mouse, and the man in the laboratory had been announced in every text-book, new as well as old. I grew tired of this reiteration and asked myself what physiological effects this treatment might have on the man in the street or the invalid at home; not the physiological effects in health but the physiological effects in disease. When are these therapeutic? When are they pathological effects? How do they act not only on the same patient or in the same disease but in the same disease and the same patient in different conditions of that patient?

The question to be solved is, Why are such gratifying results obtained in some cases and why are the results so disappointing in others? The swing of the pendulum in this case must not damp us. We are all familiar with this stage in the evolution of scientific medicine. Let us simply continue to labour and to wait. My researches, in my opinion, justify me in looking towards the future of electro-therapeutics with more confidence than ever, and with the conviction that we are only now on the fringe of great possibilities. This desirable future will come all the sooner if we, individually and as a society, continue not only to wait but to labour, measuring, measuring, measuring. The early part of my work seemed to promise labour only. I seemed to be merely recording and to be unable to see any useful results from these records. They seemed either to disprove my previous assumptions or to contradict each other. Patience, however, occasionally converted a puzzle and an apparent contradiction into a new discovery, or at least a new theory which sometimes reconciled previous seeming contradictions. Science, like art, is long and life's opportunities are few, so I am, after one year of investigation, able to indicate only some of the physiological effects which in my experience have resulted from these currents in disease. I hope you will test my facts and criticise my inferences.

There has been much stir in our society and in medical journals regarding the question of restriction of electro-therapeutics to members of the medical profession. In the interests of our profession and of the public I sympathise with this movement; but partly from a natural anxiety to be always strictly fair towards rivals and opponents I have never had any strong feeling of opposition towards these unqualified practitioners. I have little fear that our craft may be endangered by them. Let us only do our part towards the public with the same amount of zeal with which some of these unqualified operators do their work, and with all the advantages of scientific training and clinical experience on our side the victory is sure in the end to be ours. I feel inclined to leave the public to find out the difference between us for themselves. I confess that I am often so disgusted and impatient with their credulity that I am tempted to say, as was said of Ephraim: "They are joined to their idols, let them alone." Another word I would say regarding the illegitimate practitioner of electro-therapeutics. Before we attempt to remove the mote that is in his eye, let us make sure there is not one quite as large in our own. If he is zealous in his work and honest in his motives, and if, believing in himself, he feels proud of his many cures where "the Faculty" have failed—and in all fairness we must admit that this was often the case in the past, when electro-therapeutics was looked upon less kindly than it now is by the profession—let us not too readily thank God that we are not as he. Let us see, with all our advantages, that we are more scientific in our methods than he is. If, instead of being scientists, we are only artificers—mere switch-pullers indeed—let us see to mend our ways, and having ourselves a high ethical standard, electro-therapeutics will through us attain to its true and honourable position, whilst we as electro-therapeutists will gain, in the highest sense of the term, in due time. In one point the unqualified and the legally qualified practitioners are alike, and in the present unstable position of electro-therapeutics this is pardonable—nay, it is necessary. Both are, and must be, empirics in the proper and original meaning of the term; both find by experience that electricity in certain forms cures or ameliorates certain diseases or disorders; neither can say exactly how. Of how many of our drugs may this not be said? We, however, must not remain content with this. Ours is to reason why and to find out, if at all possible, why the same treatment sometimes does good, sometimes harm, and sometimes neither the one nor the other where circumstances are apparently similar. Since the date of introduction of the galvanometer much has been done in a scientific direction. The physiological action of electric currents can now be determined more readily, and than the determination of the physiological effects of electric current in disease no work can be more profitable and more interesting. The field is large and the work might well be apportioned amongst the members of this society. For this purpose a committee of investigation might be appointed and valuable work might be done.

Cardio-vascular system.—Few subjects have occupied the time and attention of medical scientists during the past few years more than that of blood pressure, and I have read almost everything that has been written on the subject in our medical journals. Writers differ in their mode of investigation, and, as usual, in their conclusions, yet all have agreed on the importance of this subject. I know, however, of no one who has made independent investigations and has published details of his original research in this department of medicine, from the point of view of electro-therapeutics as apart from electro-physiology. What has impressed me most of all in my study of blood pressure literature is the almost universal dread, expressed or implied, of high blood pressure. It has seemed to me to be something of a bogey to many. Only a few writers have mentioned the importance of having in certain cases a high blood pressure. One of these speaking on high blood pressure in cases of nephritis says: "I do not consider high blood pressure in itself a good thing, but I prefer to see it in the subjects of this disease." Another writes: "High blood pressure is possibly in old age a necessity for the purpose of permeating the less patent channels and stimulating more torpid cells."[2] We must not forget that a low or even in some cases a moderately high blood pressure may mean deficient cardiac force.

The more I have considered the question of blood pressure the more I have come to feel that this dangerous desire to have a low blood pressure requires to be checked. We are apt to forget that blood pressure is the product of peripheral resistance and systolic force. With a given peripheral

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[1] A paper read at the meeting of the British Electro-Therapeutic Society, London, on Feb 22nd, 1907.

[2] Ewart: THE LANCET, Dec 1st, 1900, p. 1541.

TABLE III.

—	Before.	C.*	After.
Pulse	85†		84†
Blood pressure	145		180
Temperature—mouth ...	98·8°		99°
" rectum ...	99·5°		99·4°

* Current 300 milliampères for 10 minutes.
† Soft and small before; much fuller after.

sometimes striking. One such case will be referred to in the part of this paper dealing with the urinary excretion showing the remote effect of the improved cardiac force on the kidneys. 10. When the blood pressure has been high for the individual's age and there is no apparent disease to account for it, I have observed that after several applications of the current the blood pressure is diminished and there is a corresponding improvement in the pulse-rate. (See Table II. (*b*); also Table IV.)

TABLE IV.

14/11/06.			C.*	
Pulse	72	74		76
Blood pressure	118	118		110
Temperature—mouth	98°	98·8°		99°
" rectum... ...	99 8°	99·4°		99·4°
" room	70°	70°		70°

* Auto-condensation current 500 milliampères for 15 minutes. Two observations of pulse, &c., were taken before current was turned on.)

5/12/06.				C.*	
Hour	3.50	4.5	4.20		4.45
Pulse	72	72	72		72
Blood pressure	103	102	102		103
Temperature—mouth ...	98°	99°	99·1°		99·2°
" rectum ...	100·2°	99·9°	99·8°		99·8°
" forearm ...	89°	94·5°	96·5°		97°
" room ...	68°	69°	70°		71·5°

* Auto-condensation current 500 milliampères for 15 minutes. Age of patient 29 years.

I shall show you presently the effect on the rhythm of the pulse in the case referred to in Table II. 11. In some instances of intermittent pulse—radial only or cardiac as well—the intermissions may diminish or disappear, although as in one case this intermittent pulse had caused anxiety to the patient for many years. Should the intermission have existed for a short period only, as from temporary gastro-intestinal disorder, the intermissions of the pulse may cease after two or three applications of the current; probably from the beneficial effects of the current on the gastro-intestinal canal. A very interesting case of intermittent pulse came under my notice about the beginning of the present researches. The patient was "run down" and she was "nervous." So weak was she and so unstable seemed the cardiac innervation that, although I knew that her object in coming to see me was to get electric treatment, I decided first to put her under bromide of potassium and tincture of nux vomica. At her next visit to me there was no change in the pulse condition, there being still about ten intermissions per minute. Auto-condensation was given for 15 minutes, the pulse-rate fell, and during the following 90 seconds no intermission was detected. The number of intermissions per minute had decreased at her next visit to me four days later, and they again disappeared after 15 minutes of the current. Afterwards the pulse is always noted as regular. A notable condition in this case was that at the early part of the treatment the temperature in the mouth and in the rectum was subnormal, the former being usually under 97° and the latter under 99°. By the end of the treatment the temperature in both the mouth and the rectum became nearly normal.

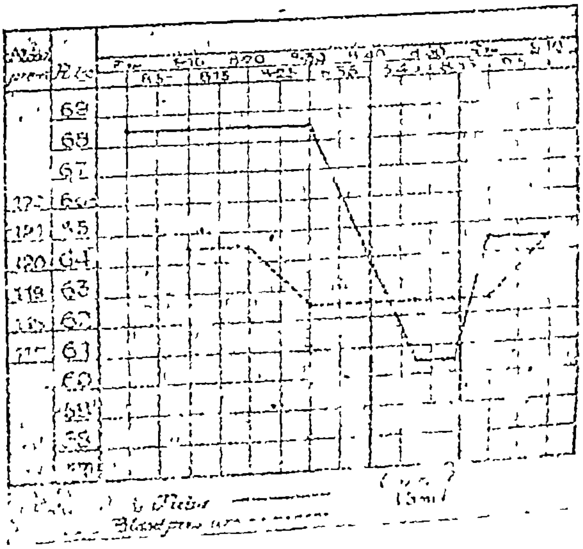
I think after what I have said regarding the tonic effects of high-frequency currents on the heart I need hardly adduce further evidence of my contention. I have dwelt on this fully because I consider it of the greatest importance, and I think you will agree with me in this. As bearing on this, however, and also on the much-debated question as to the comparative value of the living fingers as against dead, though mechanically more perfect instruments for gauging the condition of the pulse, I may say that the only times I have been impressed with the fact that I was having under my finger a full pulse, as a contrast to what it had been before, was at the close of an auto-condensation and before I knew that my watch and my sphygmomanometer were going to register a lower rate of pulse and a higher blood pressure than before the application of the current. One other point I shall merely mention. Where the pulse is variable before the current application it may become quite regular and steady immediately after. On one occasion the rate varied between 70 and 84 per minute, whereas it was 78 and absolutely steady in its rate immediately after the couch treatment. Some confusion in judging of the influence of the current on e blood pressure is apt to arise where the effect of immediately preceding exertion or excitement has been to raise the blood pressure and to lower the pulse-rate or raise it before application of the current. In the former case the heart has been quite able to respond to the exertion and so becomes slower. In the latter it has not, but has to beat faster on account of the fatigue. (Fig. 2.) If no change has taken place in the pulse-rate—this having been normal before—a good opinion may be formed of the cardiac force. (See Table V.) This case and cases where the pulse-rate is high, owing to nervous dread of the physician, show the importance of allowing sufficient time for restoration of the cardio-vascular *status quo* before any conclusion can be come to regarding the effect of the current on the blood pressure and on the pulse-rate in any particular case. If a

TABLE V.

Hour	6 27	5.38	5.50	5.58	6.4	6.10	6.15	6.23
Pulse	84	84	84	84	84	84	80	80
Blood pressure ...	240	215	185	185	182	185	185	180

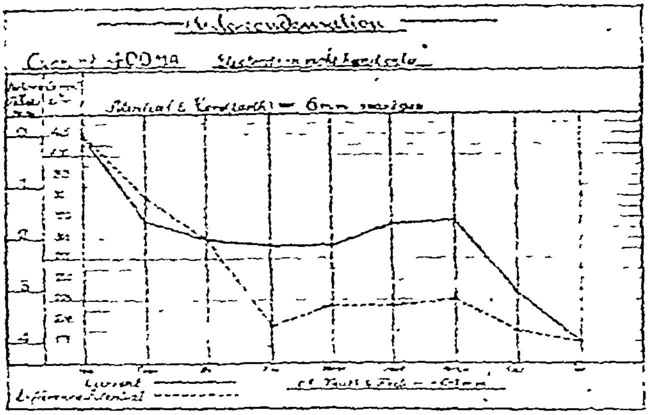
Current 400 milliampères from 6.5 till 6.20.

FIG. 4.



rise of blood pressure and a fall of pulse-rate result from previous exertion a fairly good dose of the current may be given, the final result being probably a lower pulse-rate, with no change in blood pressure. In the case shown in Fig. 4 the tonic effect on the heart is evidenced by a lowering of the pulse-rate without any reduction of the blood pressure.[4] If, however, a rapid pulse be the result of very slight exertion and the blood pressure not have been high, danger may follow even a moderate dose, unless the time be materially shortened (Fig. 2). Should the pulse rise as soon as the current is turned on the patient if asked will probably complain of faintness towards the end of the application, there being a delay of a few minutes in the increase of the cardiac force. The tonic effect on the heart, however, will appear later by the fall in the pulse-rate and the rise in the blood pressure. I may mention here incidentally that in my experience the best results from electric treatment in any form are obtained after all the benefit possible has been derived from drugs and these have failed materially to benefit the patient and when sufficient rest has been taken before each application and for an hour or so after. The best time for a change of air so as to complete the recovery is after the conclusion of the course of electric treatment.

FIG. 5.



Immediate thermic effects.—We are all much indebted to my fellow-townsman, Dr. W. F. Somerville, for his investigations into the problem of surface heat production as a result of high-frequency currents. These are so complete and so firmly established that I need not dwell on them, nor trouble you with my own results more than is necessary to prove what, in my opinion, is the cause of them, and to show that these thermic effects are in no way physiological, but purely physical. For examples of local rises of temperature see Tables VI. and VII. The difficulty of determining the physiological production of heat is stated very clearly by Waller.[5] He says: "By the thermometer we ascertain the temperature of the body, not the amount of heat that it produces or loses. The thermometer gives no measure of the activity of heat production, nor even any positive indication that it is above or below the normal. This must obviously be so when we reflect that the amount of heat in a given body and consequently its temperature, is the resultant of two factors—heat production and dissipation—either or both of which may vary. Theoretically, of course, temperature varies directly with the amount of heat produced and inversely with the amount of heat dissipated, but practically the thermometer does not show whether more or less heat is being produced or dissipated." We are thus left in great part to infer a heat production in the blood by these currents rather than to test it by the thermometer. Here let me state what may not have occurred to some of you, that whilst the rectal temperature is the internal temperature proper, being that of the large splanchnic storehouse of heat, that of the mouth, as pointed out by Haig, is a peripheral temperature. On starting my investigations I allowed too little time for heat distribution consequent on the recumbent position of the patient. In fact, I did not know of it then. When I found, therefore, that at the end of the séance the mouth temperature had risen on an average one degree and the rectal had fallen one degree I came to the conclusion that this was the effect of the current, by relaxation of the peripheral vessels. In one instance—a case of nephritis—exactly the opposite change had resulted, why I cannot tell; but amongst the many I have tested it is the only exception. After some control experiments I discovered that the transfer of heat from the internal to the peripheral circulation was natural and in no sense electro-physiological. A considerable amount of time, I find, is required to bring about this state of heat equilibrium, something like from 30 to 40 minutes. This gives time also for determining to what extent heat reduction is taking place. This latter will depend on previous exercise and the time of the patient's last meal. Physiologists are evidently agreed that the greatly

TABLE VI.

Time.	2.30	2.40	2.50	3	C.*	3.20	3.25
Temperature—							
Mouth	98·5°	—	98·2°	—		98·2°	—
Axilla	99°	—	97·8°	—		99·2°	—
Forearm	—	90°	91·4°	92°		94°	93°
Room	61°	—	64°	—		66°	—

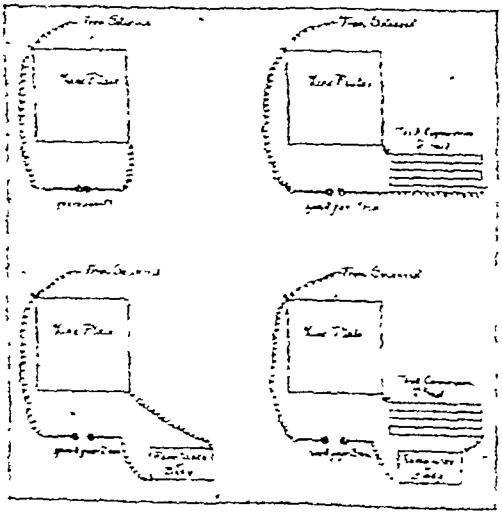
* Auto-condensation current 450 milliampères for 15 minutes.

TABLE VII.

Time.	4.40	4.45	4.50	4.55	C.*	5.20	5.30
Temperature—							
Mouth	—	—	—	98·4°		—	99·4°
Rectum	—	—	—	99·2°		—	98·5°
Right forearm ...	90°	93°	94°	95°		96·5°	—
Left forearm	90°	—	92·5	—		94°	—

* Auto-condensation current 450 milliampères from 5.5 to 5.20. Electrodes in both hands.

FIG. 6.



This figure shows that all parts of a metallic plate are at the same potential; whereas the difference of potential between the plate and the end of a 25 feet long thick copper wire attached to it is considerable. This is increased should the patient's body intervene also.

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[4] See Causes of Variation in the Blood Pressure, "Circulation and Respiration," Lauder Brunton, first series, 1906, p. 273.

[5] Human Physiology, third edition, p. 22[illegible]

reduced morning temperature, internal and peripheral, is wholly due to diminished heat production consequent upon long rest. If the blood temperature as ascertained in the mouth and rectum has been diminishing before the current was applied and is found to be stationary during the time of the current, the natural inference is that the current has had some share in this by causing increased heat production. My researches have pointed in this direction, but I have little of definite proof to bring forward in support of it. Waller's statement may explain this. It will be a natural inference also that the heat distribution I have spoken of will account for the rise in the surface temperature throughout as well as in that of the mouth. There is evidence of this contention in the heat tables I now show you, as an explanation of some at least of Dr. Somerville's results. In no case where I have allowed sufficient time to elapse before turning on the current has there been anything like such a rise as he, in some cases, has found. (See Tables VI., VII., and VIII.)

TABLE VIII.

—	Intervals of ten minutes.				C.*	After current.
Foot	78°	79°	79°	78°		78°
Groin	96°	96·8°	97°	97·1°		97·7°
Rectum	99·2°	99·2°	99 1°	98·8°		99°
Forearm	94°	94·8°	94·7°	94·7°		98°
Axilla	98°	98°	98°	98°		98·2°
Mouth	98·8°	98·6°	98·4°	98 3°		98·6°

* Auto-condensation current 500 milliampères for 15 minutes.

During Current.

—	Intervals of five minutes.		
Forearm	95·5°	96·5°	97·5°
Foot	78°	78°	78°

Temperature of room 63°, rising to 70°.
Electrodes in both hands.

It will be noticed that the greatest increase of heat is near the electrodes, and this increase of heat diminishes in amount in proportion, as a rule, to the distance of the parts tested from the electrodes. It is plainly not blood heat, but only surface or superficial tissue heat. Table IX. is a good example of this, the electrodes having been in the right hand and on the left foot. In some of my observations the temperature in the axilla is actually higher than that of the mouth. The only time I have ever observed this, apart from the action of the current, was when a patient came to see me one cold night and I found the temperature in the axilla 98°, whilst that of the mouth was 97·7°. This, however, was obviously due to the fact that he was in part a mouth-breather and had left at home his artificial teeth, as these were uncomfortable. As soon, however, as the warm atmosphere of the room had time to tell the mouth temperature became 98·6°. Now, how are these increased surface temperatures caused? I have pointed out that they are greater the nearer the parts tested are to the electrodes, and you will see that this is, by physical laws, just what might be expected, since the current to earth is greatest there and the local heat will be directly proportioned to the square of the current. It must be borne in mind that the quantity of the electricity in the case of the static form is proportioned only to the capacity of the part; whereas in high-frequency applications the current decreases in proportion to the distance of the parts from the electrodes and to the difference of the potential between these and the points from which we are measuring it. (See Fig. 5.)

TABLE IX.

Time.	6.48	6.58	7.10	7.20	C.*	7.42	Current to zero. m.a.
Right forearm	95°	95°	96·5°	96·8°		98·2°	350
,, axilla...	97·6°	98·2°	98·2°	98·2°		98·6°	325
Left forearm	94·8°	94·8°	96·2°	96·8°		97°	250
,, axilla	97·2°	97·8°	97·8°	97·8°		98°	320
Right calf	—	93·8°	93·5°	94°		95°	275
Left ,, ...	—	92·5°	92·6°	93 6°		94·8°	300

* Auto-condensation current 500 milliampères for 15 minutes. Observations begun after having been one hour in warm room.
Electrodes in right hand and on left foot.

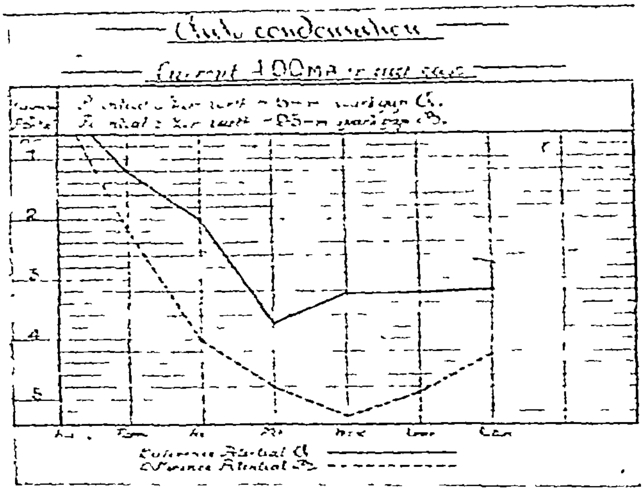
The heat production is the product of the resistance, as measured by the difference of potential, into the square of the current, and the closer these points of potential difference are to each other in proportion to the amount of potential difference the greater will be the heat concentrated there. This is, of course, a purely physical law; and it can easily be seen that, considering the enormous ohmic resistance of the dry skin, this resistance might quite equal a spark-gap of one to two millimetres between the hand and the forearm, as you can see is the case in some of the charts. That distance, as well as ohmic resistance, determines the length of the spark-gaps, and therefore the amount of the current from various points to zero is shown in Fig. 6. Of course, we must remember that although the heat production is directly increased by the potential difference, yet as this increases it will be seen that the current decreases, and so the heat production is less in spite of the resistance being greater, since the current has more influence than the resistance in causing heat.

I need hardly say anything as to how the amounts of this potential difference and current to zero are obtained. The points from which the potential difference is to be measured should have a metallic connexion to either side of a spinthermeter for the former. The current to zero is measured by making a metallic connexion from any part to earth with a milliampèremeter in series. With both hands on the ordinary electrodes it would be seen that the largest amount of current is, as might be expected, from the hands. The next in amount of current of those measured is from the forearm, and the potential difference between the hand and the forearm is quite considerable, varying from one millimetre to two millimetres, so that nearly the full amount of the current from the hand must act on the wrist and lower forearm. (See Fig. 5.) That the lines of the potential difference and of the current to zero in this chart do not quite run parallel is due, I suspect, in part to the fact that all the potential difference records are taken at one time and then all the current records. This will result in the points of each region from which the readings are taken not being exactly the same. The potential difference and the current may differ in various cases, but though this will in part depend on the ohmic resistance it also depends, at least in the case of the potential difference, on the initial total potential difference—that is, length of spark-gap from hands to earth, the same quantity of current being obtainable from the same apparatus and on the same individual by different arrangements of solenoid and spark-gap, but with a different amount of total initial potential difference to earth. (See Fig. 7.) Query, what, if any, difference therapeutically will there be from the same amount of current but at different voltages? This I have not had time to test.

I have no doubt that some of the rise of temperature in the mouth and in the rectum must be electro-physical, but how much it would be difficult to say. I should expect, however, that this would tell more on the mouth temperature than on that of the rectum, when the electrodes are grasped by both hands. Like Dr. Somerville, I have noticed that the increase of heat on the left forearm is less than that on the right. The cause of this I find is that the resistance is usually greater, and the current to zero less, in the left than in the right forearm. For obvious reasons the reverse would probably be the case in left-handed people.

Penetration of the currents into the deeper tissues.—I have already taken up so much time with the part of my thesis bearing on the cardio-vascular system that I must be brief with the remaining departments outlined in my synopsis. On another occasion I may return to them. It has been generally assumed that high-frequency currents are confined practically, if not wholly, to the surface, and that their physiological effects arise from their action on the peripheral nerves and the peripheral circulation. Dr. H. Lewis Jones, in his admirable text-book on "Medical Electricity," contests the truth of this assumption, basing his argument on the physiological results being such as to require for their explanation a deeper action of the currents. My researches have quite convinced me that there is abundant evidence of Dr. Jones's contention from the electro-physical standpoint. Before going into this matter, however, let me say that if anyone doubts the fact that these currents traverse the neuro-muscular apparatus, let him, with one hand holding one of the usual couch electrodes, place another electrode held by an insulated handle on the upper portion of the sterno-mastoid muscle and with metallic connexion to the hand electrode, a small spark-gap only intervening, and he will have sensible demonstration of the fact. An objection to this will probably be made that it is the spark which is causing this and not the current from the hand to the neck. Well, let anyone try this experiment without any flow of current by letting go the hand electrode but retaining the spark-gap to the connexion between the couch terminal and the neck, and he will find that so long as he holds the hand electrode so long will there be muscular response, but as soon as he lets go the handle no muscular contraction will occur, although the connexion still exists. Let the gap be so wide, however, that no sparking occurs, then no muscular contraction occurs. The current from the hand to the neck requires to have its potential and the amount of its current disturbed by the varying condition of the outer spark-gap circuit. If an additional argument were required that it was the current from the hand to the neck which was causing the disturbance, it might be found in the fact that as soon as the neck electrode is applied contraction of the muscles of the forearm is set up as well. Another objection which might be raised is that the current causing the muscular contraction is not a pure high-frequency current. If by that is meant that when high-frequency currents are pure they do not cause muscular contraction, I admit this. All the same, however, they are high-frequency currents, the only difference being that at the time they are suffering from a frequent change of potential, through the irregular action of the spark-gap, just as the unidirected current causes muscular contraction only when its potential is changed. In the latter case, however, it is not contended that since there is no muscular contraction during the steady flow of the current there is therefore no current reaching and passing through the muscle. The electro-physical evidence will, I think, appeal to you without much argument from me. A mere statement of some facts, indeed, and an explanation of these by means of Fig. 6, will, I think, satisfy you.

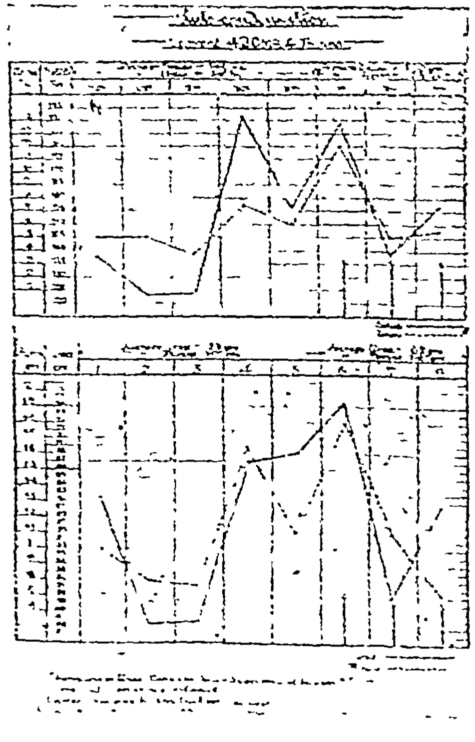
FIG. 7.



I have referred to the fact that the potential difference varies according to the resistance and in proportion to the distance from the entering current. You see that it may amount to about one millimetre at the forearm, two millimetres at the axilla, three millimetres at the waist, three millimetres at the groin, and four millimetres at the foot. If you examine this chart, however, you will find that the potential difference from the hand to the mouth is practically the same as that from the hand to the rectum; now the potential difference between the neck and the groin is five times as great as that between the mouth and the rectum: that is to say, the resistance and the distance between the mouth and the rectum are not those by the chin, neck, breast, and abdominal walls, but by the gastro-intestinal tract. Again, the potential difference between the axilla and the groin is less than that between the axilla and the waist. Why, indeed, unless the current has gone from the axilla to the groin not simply by way of the body wall but also by the gastro-intestinal canal. I have come to suspect indeed that it takes an even easier road—namely, by the thoracic and abdominal viscera direct, as well as by the gastro-intestinal tract. For if by the latter route only, then, though the ohmic resistance is not great, it is greater than that of a No. 14 copper wire, and the distance is quite as long as 25 feet. Yet we see how large a drop of potential this wire caused. (Fig. 6.) The amount of current is zero at the mouth and at the rectum is almost as if there were different parts of a metallic plate over which the current is flowing easily. Since the current is thus seen to be acting on the whole lining membrane of the alimentary canal there is no wonder that this electric energy has an influence on the appetite and on the general health.

Effects on renal excretion.—My researches in this department have, like those in connexion with the cardio-vascular system, led to a good deal of confusion and uncertainty; and although in the case of the latter I think I have been able to bring some order out of this confusion, I am not quite sure that this has been so in the present department of this work. It will readily be seen that the difficulties are greater. In the laboratory experiments absolute rules as to diet can be, and must be, enforced; whilst in the case of patients such rules are difficult, if not impossible, to enforce, and, if possible, not generally desirable; the tastes

FIG. 8.



This figure is meant to show the immediate effect of the current on the urine. Five preliminary investigations are made on the urinary excretion of four hours, namely, from 10 A.M. till 2 P.M. Thereafter the current is applied daily at 10 A.M. and similar measurements of the urine are made to determine the changes, if any.

and habits of the patients forbid this in the interests of recovery which must be the principal result aimed at. Again this variety in the matter of diet, exercise, &c., brings about such a daily variation in urinary excretions that one day, or even an average of several days, cannot be taken as a criterion; so that the effect of the current may be difficult to detect or measure with any degree of accuracy. It will be obvious, then, that the results of investigations in this department of the subject can only be, in a vague way, of weight. I show you examples which will illustrate these vagaries of the urinary products. (See Figs. 8 and 9 and urine tables.) You will see here that one day more or one day less on either side of the dividing line which indicates the beginning of the electric treatment may quite change an apparently important modification in the one direction into one quite in the opposite. This, however, will hardly account for a steadily maintained change in the direction of the normal for that individual under the influence of the current, where this personal factor can be obtained. (See Table X.) This table shows a steady advance towards the normal; taking as this the urinary excretion of several months later, when the condition of the patient is noted as "very good," though there still existed the kidney disease as evidenced by a trace of albumin being constantly found in the urine. This is only one case but it may be none the less a valuable one. It is one that I have been able to watch and to gauge the progress of with exceptional care and accuracy. In a case like this where so much benefit has followed the treatment the question arises, What has been the primary action of the current? Dr. Alexander Robertson, formerly professor of medicine, St. Mungo's College, was in charge of the case, and I was acting in conjunction with him. It was one of a very slow convalescence from uræmic convulsions. Coma had lasted for about a week; general blood-letting had been resorted to and for some days it seemed impossible for the patient to recover. Convalescence, as I have said, was very protracted and after ten weeks no appreciable progress was being made, the pulse remaining between 96 and 102. No medicine seemed to have any influence on the pulse-rate. At this stage I suggested high-frequency treatment. I said that I felt sure it would do some good; whether by influencing the general health through the kidneys or the latter through the former I could not tell. It was purely empirical knowledge only I could speak from then. Dr. Robertson agreed to the trial. We decided to stop all medicines and simply to note the condition of the patient from day to day, allowing ten days for this before beginning the electric treatment in order that we might be able to eliminate any source of error in the final result. The effect on the pulse-rate was marked. Whereas during the ten days preceding high-frequency treatment it varied between 96 and 102, it came down to 83 after the third application, practically remaining at 85 thereafter. I have no records in this case of the blood pressure at this stage because this was always taken by means of the Hill and Barnard sphygmomanometer, in which I have explained to you I have no confidence; but later, at about the time this patient's health is noted as "very good" the pulse after rest was found to be 88 and the blood pressure 218 by the Riva-Rocci (Martin) sphygmomanometer at 8 P.M. The blood pressure, therefore, may be taken at the period of convalescence indicated as about 180 to 200, and the cause of the high pulse-rate at that time as the high blood pressure *plus* the cardiac failure, especially the latter.

TABLE X.

In 24 hours.	March, 1906.			C.*	March, 1906.			Average	
	4th	5th	6th		17th	18th	19th	Before	After
Urine (ounces) ...	28·5	26·5	21·5		25·0	34·6	30·0	25·5	29·8
Solids (grains) ...	660	672	589		707	834	660	640	733
Urea ,, ...	192	172	193		235	269	240	186	248
Purins ,, ...	5·97	5·83	5·0		5·8	7·4	6·3	5·6	6·5

* Current daily.
Ratio of purins to urea before = 1 to 33.
,, ,, after = 1 to 38.

In 24 hours.	12/10/06	28/10/06	9/11/06	Average.
Urine (ounces)	45	37	38	40
Solids (grains)	742	651	1003	798
Urea ,, ...	225	222	304	250
Purins ,, ...	7·4	8·1	7·9	7·8

Ratio of purins to urea = 1 to 32.

Into the question of purins in the blood and their effect on the circulation and on the general health this is not the occasion to enter. I have been studying this question for many years and have made a large number of examinations of urine in connexion with the subject. Whilst Haig may be, I believe is, right in many cases in withholding a diet rich in uric acid, I have come to the conclusion that, in the case of most people, if only the diet is suited to the individual in *quantity* and a fair consideration given to the natural instincts in the matter of appetite, attempts should be made to improve the cardiac force and to set right the gastro-intestinal digestion, leaving the purins to take care of themselves, rather than to try to rectify faults of metabolism by washing out the purins or taking special steps to avoid their intake. I should like to draw your attention to one or two points in this connexion, however, which are illustrated in my charts and tables. In the case of nephritis referred to I found that whilst the 24 hours amount of albumin fell as the pulse-rate fell, the curve of the total purins actually rose. True, the urea was probably rising also; but if you examine Table X., which refers to this case, you will see that whilst the average daily amount of purins in the early part of the treatment was 5·6 grains, that excreted later was 6·5 grains, whilst that at the time of greatly improved health was 7·8 grains. The relation of purins to urea again became lower after the treatment and was again higher at the later stage of improved condition. Probably each man has his own purin ratio, as each one has his own urea factor; and until we can ascertain this for the individual in health it is a waste of time to argue as to the effect of the increase or decrease of the purins excreted on the general health. Look now at Table XI. Here in Case (A) we have practically the

TABLE XI.

CASE A.

In 24 hours.	December.			C.*	December.			Average	
	8th-9th	9th-10th	10th-11th		24th	25th	26th	Before	After
Urine (ounces) ...	47	45	51		30	38	42	47·6	36·6
Solids (grains) ...	1189	940	953		792	1045	924	1027	920
Urea ,, ...	470	450	408		345	418	399	443	387
Purins ,, ...	11·7	10·8	11·8		6·7	10	12·3	11·4	9·6

* Current—10 applications 500 milliampères for 15 minutes.
Ratio of purins to urea before = 1 to 38.
,, ,, ,, after = 1 to 40.

CASE B.

In 24 hours.	November			C.*	December.		Average	
	23rd	24th	28th		26th	27th	Before	After
Urine (ounces) ...	34	29	43		47	35	35	41
Solids (grains) ...	785	669	851		962	1001	763	991
Urea ,, ...	—	—	344		446	350	—	398
Purins ,, ...	—	—	12·1		11·9	15·4	—	13·6

* Current—12 applications 450 milliampères for 15 minutes.
Ratio of purins to urea before = 1 to 28.
,, ,, ,, ,, after = 1 to 29.

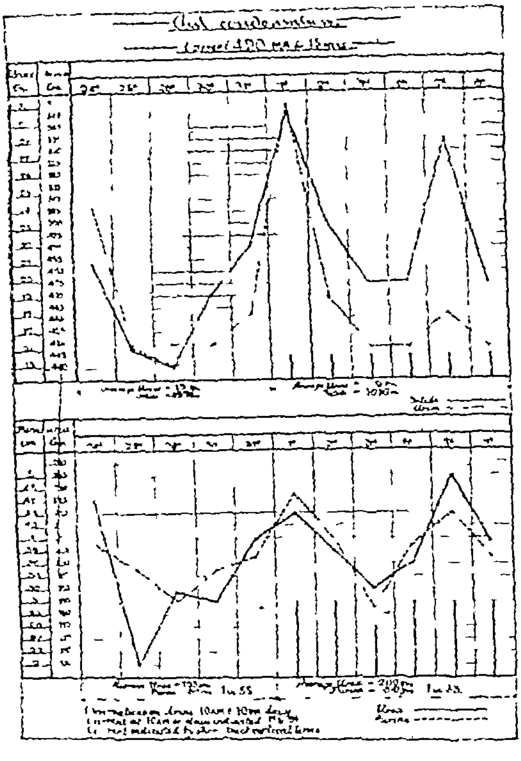
CASE C.

In 24 hours.	November.			C.*	December.			Average	
	13th	20th	22nd		16th	17th	18th	Before	After
Urine (ounces) ...	72	84	72		66	66	60	76	64
Solids (grains) ...	1188	1293	1103		1029	1089	990	1196	1055
Urea ,, ...	432	504	468		—	462	420	453	441
Purins ,, ...	17·7	18	16·7		16·8	16·3	13·9	17·4	15·3

* Current—six applications.
Ratio of purins *to* urea before = 1 to 27.
,, ,, after = 1 to 22.

me ratio of purins to urea at the close as at the beginning f the treatment; although the treatment immediately nproved the general health. The same may be said of he case referred to in Fig. 9, where the ratio is 1 in 55 efore and 1 in 53 after treatment; and yet my notes say regarding this case at the close of the treatment: "General condition improved, no rheumatism, no restlessness of legs now." The rheumatic condition must be more than a mere matter of purins. Look again at Cases (B) and (C) in Table XI. and you will find very little change in the purin-urea ratio in either, and yet, in the former at least, the condition improved vastly after the electric treatment. In this Case (B), one of obesity, the urea and the purins have both increased under the treatment. I have pointed out, however, that this is not an invariable result. Indeed, looking at Case (A) you will there see that where a like benefit had followed exactly the opposite had occurred.

FIG. 9.

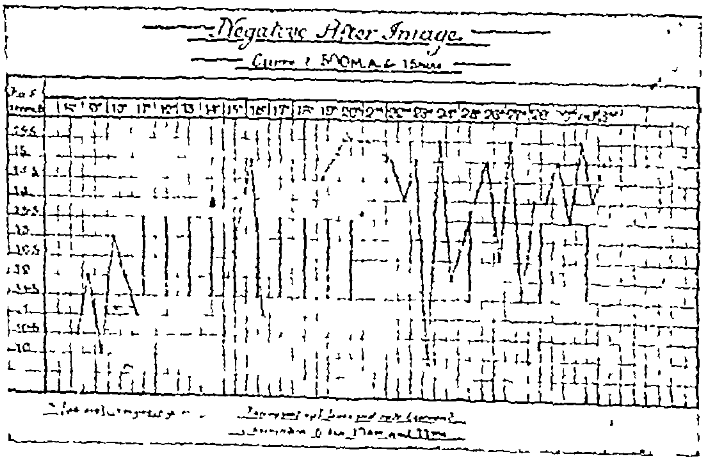


Here measurements are made of the total urine from 10 A.M. till 10 P.M. for five days before and for six days after the beginning of the electric applications, these being daily at 10 A.M.

I have left myself very little time to speak of the Joulie urinary coefficients. Let me just say that by this is meant the actual amount of phosphates of the urina sanguinis per litre per cent. specific gravity, divided by the total acidity per litre per cent. specific gravity. The normal figure for the phosphates, reckoned as P_2O_5, is 11·17, that of the acidity 4·55, the ratio being thus 2·45. From the variation in these figures Joulie draws important conclusions regarding the metabolic processes and the indications for treatment. Whether electric treatment by high-frequency currents would modify these figures I have not yet settled in my own mind, though I have made numerous experiments in this direction. I may return to this subject on a future occasion.

Retino-cerebral mechanism.—I have considered the physiological effects of high-frequency currents from the points of view of the cardio-vascular, thermo-genetic, gastro-intestinal, and renal systems. Can any of these, or all of them put together, explain the various signs and symptoms we know to expect from this treatment? I am sure they cannot. They give no explanation of certain sensations remarked upon by patients when undergoing auto-condensation treatment. One patient will say that the after-effect is a sense of "comfortable weariness in contrast to fatigue or faintness." Another I have heard remark: "I feel for an hour or two after a restful weariness which is just lovely." One lady, after the vacuum electrode from the high-frequency solenoid had been applied to the supra-orbital region for neuralgia, remarked to me the following day: "I don't know what you have done to me or how you have done it, but since yesterday a load has been lifted from my mind and all my cares are gone." For years this lady seemed to have a weight of care on her and there had I knew been much cause for this. Yet at her subsequent visits and until I last saw her she declared that her burden of mental distress had not returned. Unfortunately, this is an exceptional case; but it will serve as an illustration of the point I wish to enforce—viz., that some action on the central nervous system takes place under the therapeutic use of these currents. How is this effect to be seen or measured? We cannot see what is going on in the brain, but we may see and measure what is going on in the retina, which, after all, is a prolongation of the brain. What is called the "after-image" may by the measurements of its duration give us some indication of the condition of the retino-cerebral mechanism. Physiologists whose works I had consulted declare that the duration of this after-image is proportional to the cerebral fatigue present. Haig maintains that the undue prolongation of the positive after-image is due to a state of collæmia of the capillaries of the retina, and this condition, according to him, is caused by excessive uric acid in the blood, which again is a cause of cerebral malnutrition. I tried to measure the duration of the positive after-image on myself but gave this up for several reasons. The exposure of the eye to a strong light for several seconds was uncomfortable, if not mischievous; besides, it seemed impossible for me to fix a moment of time in the course of its disappearance as a measure of its duration, and further it continually eluded me in my endeavour to keep it stationary. I then decided to measure the duration of the negative after-image as an index of the cerebral fatigue. I soon, however, had reason to doubt whether this, the duration, was directly proportional to the cerebral fatigue, and I began to suspect that it was rather inversely proportional to this, since the fresher I was the longer did the after-image remain. I also noticed that the duration was longer in the morning than at night and longer with the young and the strong than with myself. On satisfying myself as to these points I consulted various other authorities and discovered that the opinions of physiologists were about equally divided on the subject of the after-image

FIG. 10.



as an indicator of the retino-cerebral condition, some maintaining that its duration was directly proportional to the fatigue, others that it was inversely so.

Let me here explain, for the benefit of those of you who may not have studied this subject, the nature of the negative after-image and the means for accurately measuring its duration.

(*Explanation given and the means of observation shown.*)—My experience has led me to the following conclusions: 1. That the duration of the negative after-image is different in different individuals. 2. That in the same individual it differs according to the state of the health, being longer when the person is well and fresh than when ill and fatigued; according to the time of day, being, at least in my own case, longest just after breakfast and shortest at bedtime. I could, indeed, tell with a fair amount of certainty how fit or unfit I was going to be during the day by taking my negative after-image in the morning, and I could fairly correctly gauge what it was going to be when I had finished my day's work. When, by reason of temporary good spirits giving me the feeling of being particularly fit, I expected to find it high in spite of a specially hard day's work, I discovered that this was not the case, the duration being less owing to the previous fatigue. I can with a metronome beating half seconds reckon the duration in my own case to a quarter of a second. A considerable amount of experience is necessary, however, to be able to measure with sufficient scientific accuracy the duration of one's own after-image. Accordingly I have not been very successful with other people; but I recommend the matter to your consideration as interesting and as of scientific value. The examination must take place as near as possible at the same hour, the light must be the same, the distance of the light from the image the same, and the distance of the eye from the object and the image also the same, as well as must the metronome beat at exactly the same rate and for the same number of half seconds before the eye is turned towards the white paper. The image generally appears at once, but with some people there is a delay of a few half seconds before its appearance. With most the image returns two or three times but this is not reckoned in the measurement. Unless the eye be kept fixed on one spot the record is spoiled. Accordingly I have, as you see, fixed a pin in the centre of each paper to keep the eye fixed on, since if it wanders from the spot it was originally fixed on the image at once disappears. Fig. 10 is a good example of the negative after-image record in a case where the benefit derived from the current was most marked. You will observe that the average for the six times noted before the beginning of the treatment is slightly under 11·5, that for the time succeeding the treatment slightly over 14. Note also the effect of fatigue on one occasion and also that, when the duration of the image is ceasing to be so favourable after the treatment had stopped, one application of the current has raised the night record to a higher level than that of the morning of the same day.

Questions worthy of consideration as to future investigations.—1. Do the physiological results differ where the amount of the current is the same but the initial voltages differ? 2. Can any changes in the retinal vessels be observed? 3. What influence may the time of application have with relation to meals? 4. What are the effects of varying doses and duration of application under exactly the same conditions of the patient? 5. What might be the effect of high-frequency currents on the growth or virulence of bacteria, with special reference to those found in disordered conditions of the intestinal canal? 6. What, if any, influence have these currents on the urina sanguinis with relation to the Joulie ratios? Finally, let me again advise the appointment of a scientific investigation committee.

Glasgow.

Welsh Medical Dinner.—The fourth annual Welsh medical dinner was held in London on May 31st, under the presidency of Sir Isambard Owen. There was a good attendance and amongst those present were Sir R. Douglas Powell (President of the Royal College of Physicians of London) and Mr. Henry Morris (President of the Royal College of Surgeons of England). Sir Isambard Owen, in the course of an interesting speech, alluded to the fact that the University of Wales was securing a supplemental charter to empower it to confer degrees in medicine and surgery.

VARIATIONS IN THE AGE-INCIDENCE OF MORTALITY FROM CERTAIN DISEASES.[1]

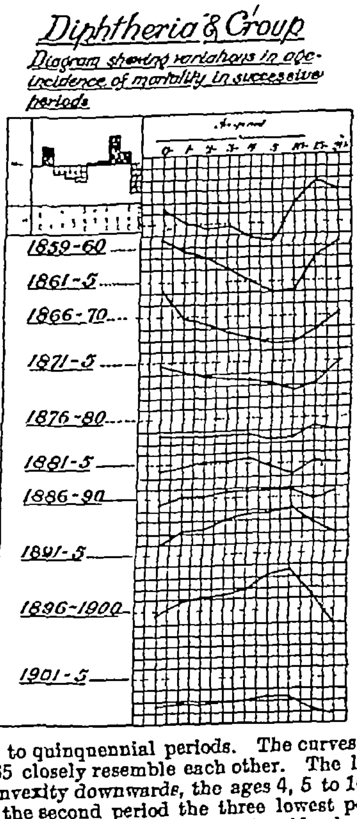
By Sir SHIRLEY F. MURPHY,
MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

At the request of your secretaries I am proposing to submit for your consideration a series of diagrams showing change in the age-incidence of mortality from certain diseases. The subject has been from time to time discussed in reports I have presented to the London County Council, but although it is not entirely new I hope the diagrams will be found to be of sufficient interest to the meeting to justify me in occupying a part of the evening in their exhibition.

I wish, in the first instance, to state how these diagrams have been constructed, in order that they may be perfectly intelligible. The method of construction is the same in each instance. The mean death-rate at each age in the whole period under consideration is taken as a standard, and the death-rate at each age in each quinquennial or decennial period is stated as a percentage above or below the mean of the whole period. Thus the death-rates at the several ages over the whole period are represented by a straight line, and the excess or defect of the death-rates at these ages in each quinquennial or decennial period forms a curved line above or below the mean. It is obvious that by this method any deviation from a straight line represents variation in the age-incidence of mortality.

The first diagram (Fig. 1) which I will ask you to look at is based upon the deaths in London from diphtheria and croup from the period 1859 to 1905. The first period represented by a curved line relates to the years 1859 and 1860, while all other lines relate to quinquennial periods. The curves of 1859-60 and 1861-65 closely resemble each other. The line is bent with the convexity downwards, the ages 4, 5 to 10 and 10 to 15 being in the second period the three lowest points in the curve. The period 1859-65 was one of epidemic prevalence. The next three quinquennial periods are periods of decline of prevalence, but it will be seen that this decline has been obtained not so much by decline at the ages I have mentioned as by decline at ages below and above those ages, so that the line representing the period 1876-80

Fig. 1.



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[1] A paper read before the Epidemiological Society on March 5th, 1907.

is almost a straight line. The periods 1881–85 and 1886–90 are periods of increase of prevalence and the increase has been much the same at each age, although it will be noted that in 1881–85 the ages 2, 3, and 4 are a trifle above the mean, and in 1886–90 the ages 1, 2, 3, 4, 5 to 10 and 10 to 15 are also above the mean. There is, indeed, a slight tendency in both these periods for the line to become curved with the convexity upwards. In 1891–95 the recent epidemic in London was at its height; there was increase at each age, but this increase was most marked at ages 4, 5 to 10 and 10 to 15. In 1895–1900 there was some decline, but the mortality from this disease was still much above the average, especially at the ages 5 to 10 and 10 to 15. In 1901–05 the death-rate at all ages was lower than it has been since the deaths from diphtheria have been separately stated by the Registrar-General, and the line has now become almost straight, with a slight tendency for the decrease to be less manifested at ages 5 to 10 and 10 to 15 than at the other ages.

FIG. 2.

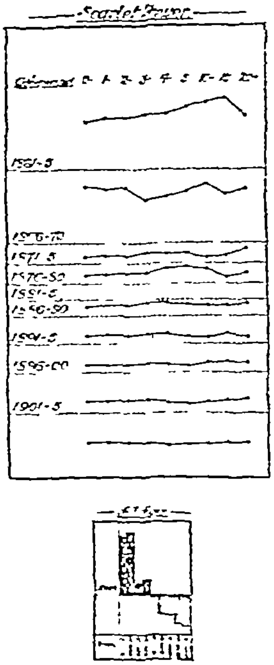


FIG. 3.

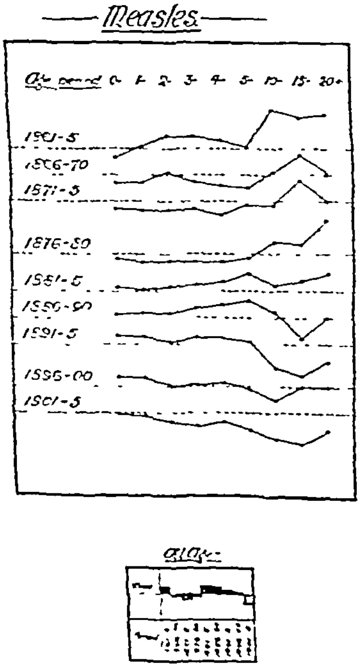


FIG. 4

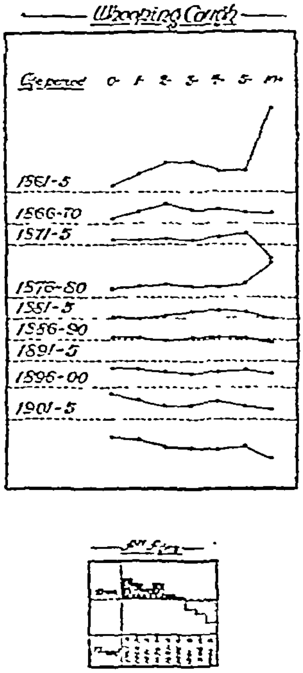
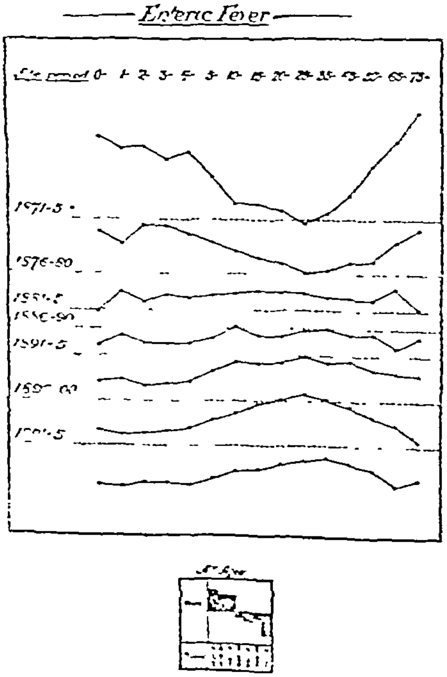
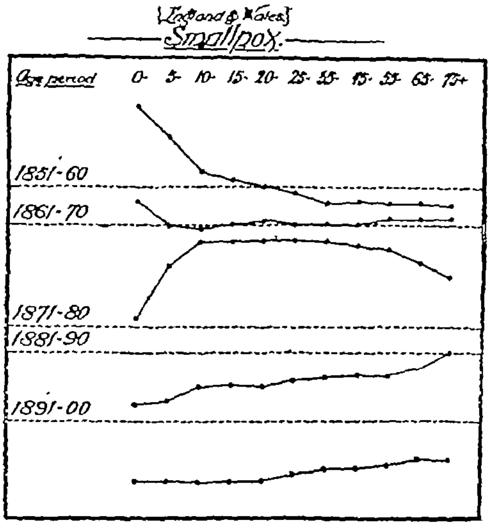


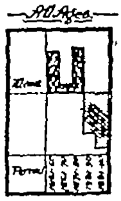
FIG. 5



There has, therefore, been a change in age-incidence which there is reason for thinking is rhythmical, but the whole story is not yet complete, for we need the periods 1906-10 and 1911–15, or indeed still later periods, to enable us to see whether the lines which they will provide will resemble those of 1866-70 and 1871–75. Possibly, however, there will be less conspicuous curves than in these years, owing to the greater aggregation of children in school leading to increased incidence of mortality at the school age. It is noteworthy that the increased incidence on ages 4, 5 to 10 and 10 to 15 began when there was decline in the "all ages" death-rate. I think this may probably be a natural increase, although it may have been accentuated by increase in aggregation of children at school. However this may be, I should expect to find the first evidence of recurrence of epidemic prevalence of diphtheria in increase of relative incidence upon the ages 4, 5 to 10 and 10 to 15.

FIG. 6.





The scarlet fever diagram (Fig. 2) is only able to show a story of decline during practically the whole period for which the figures are available. There is, however, a greater tendency for the lines to become straight in the later periods than in the earlier. The line for the period 1861-65 shows greater relative incidence on the ages 4, 5 to 10, 10 to 15, and 15 to 20 than that of any others; and again in 1876-80, when there was some increase in mortality at all ages, this was especially manifest at ages 4, 5 to 10 and 10 to 15. Of course it needs to be remembered that the periods between epidemic prevalences of scarlet fever may be much longer than in the case of diphtheria, and that the time for the minimum incidence on the ages mentioned has not yet come; otherwise a depression of the curve in the last period or two might have been expected; unless, of course, as the result of greater aggregation of children, at ages 4, 5 to 10 and 10 to 15, the depression in the curve at those ages, which might otherwise have occurred, has been obscured. All that can be said is that there is some suggestion in the last two curves of depression at these ages.

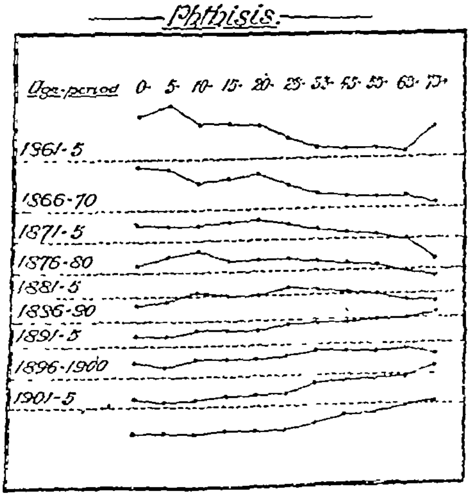
The measles diagram (Fig. 3) tells much the same story. In 1861-65, a period of high mortality, this was exceptionally manifest at ages 2, 3, and 4 (the figures for ages over 10 are comparatively small and no great importance can attach to them). With decline of mortality the line becomes more nearly straight. With increased mortality in 1881-85 and 1886-90 the increase is manifested especially at ages 3, 4, and 5 to 10; and then with decreasing mortality at all ages this special incidence becomes less evident.

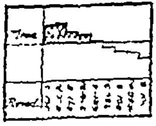
The whooping-cough diagram (Fig. 4) closely resembles that of measles. Here, again, the figures for the higher ages are small and apt to yield exceptional results. With slight exceptions there has been decline in the period represented. The curve which is seen in the line of 1861-65 becomes flattened out in subsequent periods. The small increase in mortality at all ages in the period 1876-80 does not appear to have materially affected the curve of those years.

The diagram of enteric fever (Fig. 5) is interesting because, while there has been decline in the death-rate at all ages during the whole period represented, with very slight exception in 1896-1900, there has been increasingly greater relative incidence on the age-period 25 to 35, and on the ages which immediately precede and follow that age-period. The diagram shows that these ages have not participated in the general decline anything like so much as the others. In the period 1901-05, however, the line is straighter than it was in 1896-1900. Although it is quite conceivable that the age-incidence of mortality from this disease would be affected by alteration in the opportunity for infection to reach man by particular channels, in view of what is seen in the diagrams relating to the other diseases I cannot deny the possibility that this change is a natural variation. It will be recollected that the diphtheria diagram manifested increase of incidence on age-periods 4, 5 to 10 and 10 to 15 with decline of mortality at "all ages."

For the purposes of a diagram representing small-pox mortality I have been obliged to abandon London and to use figures relating to England and Wales, so as to avoid the error which would result from the removal of cases of small-pox from London to districts outside where the deaths were registered. It is, of course, impossible from this diagram (Fig. 6) to learn what is the natural behaviour of small-pox in respect of age-incidence on account of the disturbing effect of vaccination. It is, however, interesting to compare the incidence on the age-periods 0 to 5 and 5 to 10 in the two epidemic periods 1851-60 and 1871-80 and to observe that in the two later decennia, in the absence of epidemic prevalence, the lines lose their curvature and become more nearly straight.

FIG. 7.





The diagram for phthisis (Fig. 7) shows, of course, general decline of mortality from this disease and shows also how much more marked this decline is at the younger ages than at the older ages. It gives no indications of that behaviour of the curves which is noticeable especially in the case of diphtheria, but is suggestive of decline of mortality owing to successive additions by birth of a more resistant race.

The cancer diagram (Fig. 8), based on the figures for England and Wales, is in the main interesting as showing behaviour which, I think, can only be explicable on the hypothesis of change in nomenclature. It will be seen that the incidence on ages below 25 years was in the second and third decennia actually and relatively less than in the first, while on ages above 25 the incidence is increasing. Further, the incidence on ages 25 to 35 is in the second and third periods relatively increasing. In the fourth period the line becomes practically straight, but in the fifth period the incidence on ages 25 to 35 becomes relatively less than on other ages. The actual incidence on ages 25 to 35 has, however, remained practically constant throughout the whole 50 years.

The last of this series is the diagram relating to "all causes" (Fig. 9). It closely resembles the diagram for phthisis, but differs from it in exhibiting a tendency for the mortality of the first year of life to be maintained in greater degree than that of subsequent ages. This is no doubt in some degree due to the mortality from measles and whooping-cough being especially maintained in the first year of life, but is probably largely due to the more complete registration during later periods of deaths of infants who survive their birth but a short time. There is here also the suggestion of the birth in successive periods of a more resistant race.

FIG. 8

Cancer

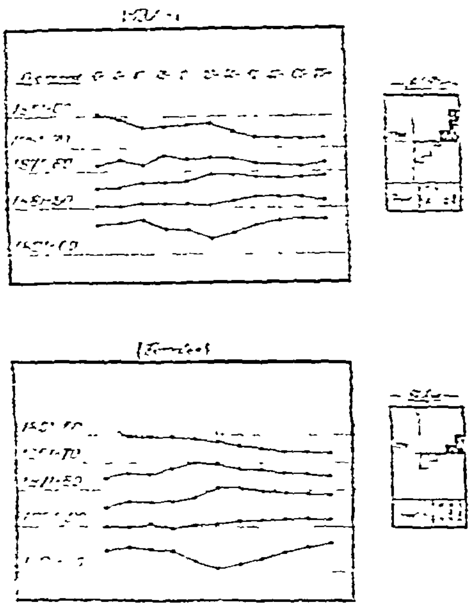
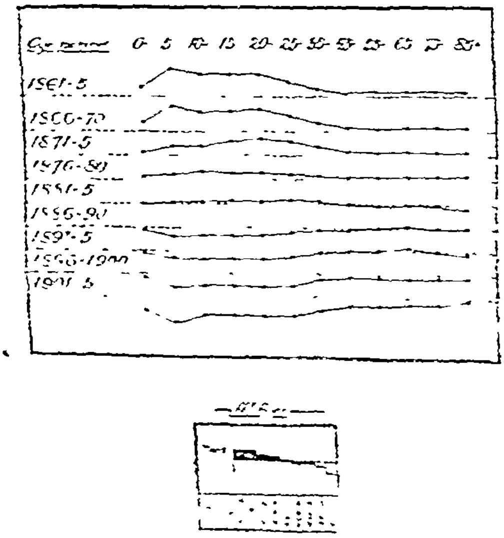


FIG. 9.

All Causes



I have said little concerning the effect which change of nomenclature, better diagnosis, &c., must have had on the diagrams; and indeed only mention it now to protect myself from the suggestion that I have not had it in my mind. I have preferred to present the diagrams based as they are on the actual records of the Registrar-General. I think, however, in the case of the infectious maladies, scarlet fever, diphtheria, measles, and whooping-cough, that variations in the age-incidence of mortality occur as a natural phenomenon, not improbably as the result of variation in virulence, and affected also no doubt by such influences as difference in opportunity of acquiring infection, and perhaps in small degree by differences in

FIG. 10.

Diphtheria.

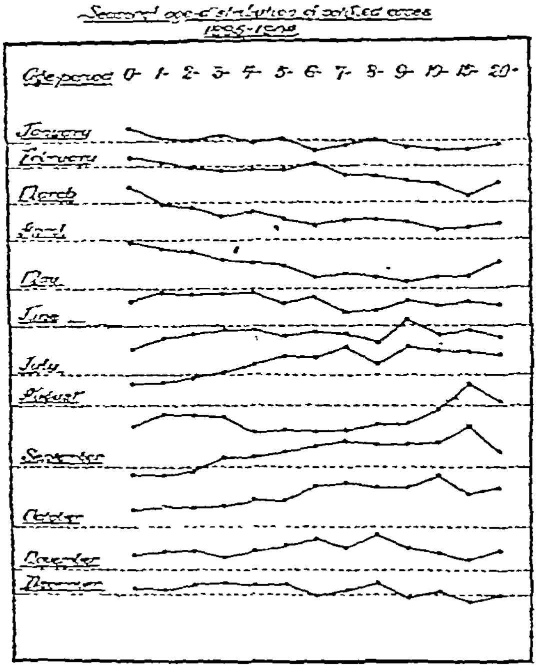
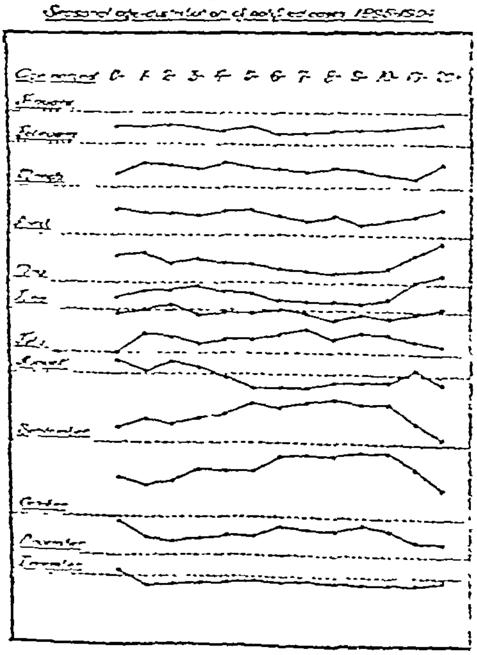


FIG. 11.

Scarlet Fever



the proportion of persons at the several ages rendered immune by attack in antecedent periods. That these variations are not the same as those seen in the other diagrams tends to confirm this view.

Apart from the variations which occur over long periods variations can also be shown to occur as the result of season. The last two diagrams I have to exhibit show this in respect of diphtheria and scarlet fever. It will be seen that in the case of diphtheria (Fig. 10) the incidence of attack on the ages 5, 6, 7, and 8 increasingly declines until April, after which it increases until August, when the increase is interrupted by the school holiday. It is again manifest in September and October, and then again declines.

The diagram relating to scarlet fever (Fig. 11) shows practically the same behaviour, except that the decline at the ages mentioned is continued to May.

LIGATURE OF THE RENAL VESSELS BY THE TRANSPERITONEAL METHOD FOR THE CURE OF PERSISTENT URINARY RENAL FISTULA,

WITH NOTES OF ONE SUCCESSFUL CASE,[1]

By MAURICE P. HOLT, M.R.C.S. Eng.,
MAJOR, R.A.M.C.

1. *Choice of procedure: (a) nephrectomy.*—In the absence of well-known contra-indications nephrectomy is commonly acknowledged to be a legitimate surgical procedure in certain of these cases. But where there is extensive matting of the kidney and perinephritic tissues to surrounding structures nephrectomy may be extremely difficult or even impossible. The severity of the operation, the risk to the patient from hæmorrhage, shock, and damage to important organs and serous cavities, justify the authoritative admission that the maintenance of good drainage is then the sole resource in the vague hope that at some future and quite uncertain date healing may occur.

(*b*) *Subcapsular nephrectomy;* (*c*) *morcellement.*—In other cases subcapsular nephrectomy, piecemeal nephrectomy or morcellement may be tried, but these operations are often followed by prolonged suppuration or by permanent fistula owing to a portion of renal tissue having been left behind, as it frequently is.

2. *Disabilities attendant on a persistent renal sinus.*—Taking the case of a young and otherwise robust man who has to earn his living, and who would find the expenses entailed by the purchase of voluminous and frequently to be changed dressings, or of any special apparatus, quite beyond his resources, or taking, on the other hand, the case of a weakly patient, in whom the drain of prolonged suppuration would appreciably curtail life, the surgeon may well hesitate before coming to a decision as to which of these methods to adopt.

3. *Dangers and difficulties of nephrectomy.*—In not a few cases death from hæmorrhage alone has been the immediate result of operation. Greig Smith recognised cases where the kidney and surroundings were so much altered that the kidney "could not have been removed from the body by any proceeding claiming to be regarded as surgical." Henry Morris admits cases "in which it was difficult even to dissect the organ away in the post-mortem room," in which it is difficult or impossible to identify where kidney tissue begins and scar tissue ends (if, indeed, they are not inseparably blended), and in which, further, the closure of a urinary sinus is "sometimes impossible"; and other similar opinions could be quoted.

4. *Nature of case for which renal vessel ligation was performed.*—It was upon a case of this nature that the operation which I devised was successfully performed. The patient was a short, thick-set, strong young man, otherwise healthy. Nine months before he came under my care he sustained a rupture of the left kidney, and his very short subcostal space was filled with scar tissue, and a sinus through which pus and urine were freely discharged. I made four attempts to perform nephrectomy but had to abandon the operations partly on account of furious hæmorrhage, partly on account of the impossibility of distinguishing renal from surrounding scar tissue. (Notes of the case are given below.)

5. *No precedent to go upon.*—I have not been able to find any reference to ligature of the renal vessels as an operation to secure a definite surgical result *per se.*

6. *Experimental ligation of renal vessels.*—In various physiological publications and text-books references are made to atrophy of renal epithelium and cessation of urinary secretion as a result of ligature either of the renal arteries or veins. Beddard's experiments on the frog,[2] even allowing for differences between batrachian and mammalian renal blood-supply, lend support to the view that by ligature of the renal vessels the glomeruli of the whole kidney are cut out of the circulation, that complete ligature prevents spontaneous secretion of urine, and that "cutting off the arterial blood-supply of the kidney causes the epithelium of the tubules to degenerate rapidly." De Souza[3] supports Heidenhain's contention "that the amount of urine secreted is directly proportional to the velocity of the blood-flow through the kidneys," and suggests that probably a similar result might be obtained by tying only the renal veins.

7. *Deductions from laboratory experience.*—Reasoning on these lines I concluded that if the renal artery and vein were ligatured complete atrophy of the renal secreting tissue would be insured, and supposing the presence of urine to be the sole hindrance to healing, that if once the secretion of urine within the limits of the abscess ceased, then healing by normal granulation would follow. And this, indeed, was found to be the case; the sinus healed, and I had a letter only a few weeks ago, nearly two years after the operation, in which the patient said he remained quite well, was earning a living, and that the sinus had never reopened.

8. *Significance of blocked ureter.*—In the notes of the case it will be seen that evidence pointed to the conclusion that the ureter had become blocked. It seems obvious that when this is so a renal fistula can never heal spontaneously; it would be quite fortuitous that a blocked ureter (excluding, of course, the case of a removeable, or moveable, calculus) should ever again become patent. It is very seldom advisable to undertake any surgical proceeding with the object of re-establishing patency of a blocked ureter in old suppuration cases; for a successful result, even if achieved, is not likely to remain a permanent one.

9. *The presence of, and final cessation of, urine in the discharge from the sinus.*—At this point I may say that it remains a matter for regret that I did not have some estimate made from time to time during the healing period of the urinary constituents in the discharge from the sinus, for the purpose of comparison with similar analyses made before operation. The presence of urine in the discharge was only too obvious before the operation. After the operation for the first few days the discharge was scanty and smelt faintly of urine. Then, on the fifth day, a large amount of discharge came away in which the smell of urine was not apparent; nor was it ever again present, the discharge appearing as a clear, odourless serous fluid. Healing was complete on the fifty-seventh day after operation. Apparently, then, atrophy of urine-secreting epithelium occurred within five days or so.

10. *Pathology of the cessation.*—It must remain a matter for speculation whether infarction of the whole kidney occurred or whether a more gradual process of atrophy took place. The urine appearing in the discharge for the first few days may well have been a residuum remaining in the various recesses of the abscess.

Having stated the indications for, and the object of, the procedure adopted, one or two points remain to be considered as to (1) the technique, (2) the advantages, and (3) the limitations of the operation.

11. *Technique.*—(*a*) The technique is rather obvious, but remembering the possible existence of accessory or abnormal renal afferent vessels, a search should be made along the aorta to a limited but reasonable extent for these; Zondek found accessory arteries in five out of 15 subjects examined. (*b*) Asepsis can only be assured by avoiding the suppurating area at all costs; this is effected by keeping as far from the kidney as possible and as close to the aorta and vena cava as is safe to apply a ligature. (*c*) Access to the renal pedicle in abdominal nephrectomy is claimed to be safer when made through the outer layer of the meso-colon by reason of less danger to the colic blood-supply; to follow this route, however, would almost certainly open up the

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[1] A paper read before the Royal Medical and Chirurgical Society on May 28th, 1907.

[2] Journal of Physiology, vol. xxviii., 1902.

[3] Ibid., vol. xxvi., 1900–1901.

septic area, and moreover the colon may be found inseparably united to the kidney. In my case no evil resulted from approaching the renal vessels through the inner mesocolic layer, and this notwithstanding that a search was made for possible renal afferent vessels.

12. *Advantages.*—Properly carried out there is little or no risk from hæmorrhage, shock, or sepsis. As regards (*a*) *hæmorrhage*, this method is in great contrast to any form of piecemeal nephrectomy; (*b*) it is an *aseptic* operation which nephrectomy would certainly not be; and (*c*) subcapsular or piecemeal nephrectomy is at best *a very severe operation*; ligature is not so and shock should not occur; there is inappreciable risk as regards possible damage to the colon or other surrounding organs and serous cavities (septic infection).

13. *Limitations.*—Ligature of the renal vessels may be a very simple proceeding or may be insuperably difficult, and of course there may occur cases where the kidney is so closely adherent to the aorta or the vena cava as to make it impossible to apply a ligature to the vessels. Greig Smith mentions a case where "the aorta and vena cava were so adherent to the kidney that it was found impossible at the autopsy to dissect them apart." I take it that such a condition would be easily recognised through a sufficiently free opening in time to save a blunder. But in the case of the right kidney it might still be possible to ligature the artery by getting at it behind and to the left side of the vena cava, pushing the vessel aside for the purpose of access. Ligature of the artery alone would suffice on laboratory experience to bring about atrophy of the renal epithelium. In the case of the left kidney the renal vein would be accessible and ligature of this alone should bring about a similar result. Von Bergmann mentions a case of Schede's in which an elastic ligature necessarily included a part of the vena cava. The right renal vein is so short (about one inch long) that there would always be danger of opening the septic area in trying to isolate it for purposes of ligature.

Consultations and advice.—An unusual procedure of this sort was naturally not undertaken without first asking the advice of others whose experience would be of great value. First, on several occasions Sir Charles B. Ball very kindly saw the case with me. He quite acquiesced in the view that a further attempt at nephrectomy would not be justifiable, and when at a later date I suggested ligation of the renal vessels he agreed that, though there was no precedent to go upon, it would be worth trying. Finally, I showed the case to him when the sinus had quite healed. To Professor W. H. Thompson, of Trinity College, Dublin, I put the question of the probable result in man of ligature of the renal vessels, and he argued that, from laboratory experience, immediate cessation of urine secretion might be anticipated and then, at an early date, atrophy of the kidney should follow. I had the great advantage of the valuable assistance and wide experience of Dr. W. S. Haughton, surgeon to Steevens's Hospital, Dublin, at two of the attempted nephrectomies, and on each occasion he agreed that the profuse hæmorrhage justified abandonment of the operation. At the final operation (ligature of the renal vessels) I was fortunate in securing the assistance of Dr. R. Atkinson Stoney, senior demonstrator of anatomy, Trinity College, Dublin, and surgeon to the City of Dublin Hospital. My gratitude to these gentlemen is not easily expressed in words.

Conclusion.—In conclusion, though in the first instance this operation was performed when nephrectomy had been attempted and found impossible, I should not hesitate to employ renal vessel ligation in the future as a substitute for nephrectomy where this latter operation promised great difficulty and the likelihood of such severe hæmorrhage as would suffice to turn the scale between life and death in an exhausted patient. Moreover, as a preliminary to a subsequent nephrectomy (a septic operation) an aseptic ligation of the renal vessels would be sound surgery, though I claim that nephrectomy would then be unnecessary, as the ligature would be followed by rapid and permanent cure. Ligature of the renal vessels is surely a great improvement on any form of subcapsular piecemeal nephrectomy or morcellement. The former is a simple, and the latter a very serious, procedure, and both effect the same result.

While quite conscious of the imperfect support that a single successful case affords to a new method, the very rapid, satisfactory, and permanent cure so obtained seems to warrant my bringing the subject before the notice of the Fellows of the society with some confidence that it may be deemed worthy of criticism at least, and possibly of some degree of approval as to its suitability in cases of a similar nature.

Brief history of case.—The patient was aged 19 years. Sept. 14th, 1902: Admitted. Kicked at football previous day. Severe pain in loin. Oct. 2nd: Large abscess opened close to left iliac crest; let out pus and urine. Diagnosis: Rupture of? kidney or ureter.

Jan. 21st, 1903: Extensive empyema evacuated; previous abscess still discharging pus and urine. April 4th: Abscess explored. It extended forward amongst abdominal muscles to near umbilicus, upwards to left pleural cavity, backwards and upwards to left kidney area, downwards into pelvis. Pus in vesical urine. Diagnosed ruptured kidney. June 8th: Sent to Dublin for nephrectomy. 21st: Pyuria; pus and urine discharging from sinus in loin. July 17th: *Operation.*—Attempted nephrectomy; abandoned owing to profuse hæmorrhage; removed five calculi. August 6th: Scar in eighth intercostal space opened spontaneously. Nov. 10th: Skiagraph; shadow of calculus in kidney. 12th: Empyema scar again opened spontaneously, having remained closed six weeks. Dec. 1st: *Operation.*—Attempted nephrectomy; abandoned owing to inadvertently opening peritoneum and inability to define limits of kidney tissue; three calculi removed; very profuse hæmorrhage.

March 6th, 1904: Skiagraphed: further shadow of calculus. 15th: *Operation.*—Two calculi removed; profuse hæmorrhage, therefore gave up attempt at piecemeal nephrectomy; unable to clamp pedicle; collapsed and critical condition for many hours. Sept. 28th: Cathelin's separator: Right ureter, urine acid, clear, no pus or blood, no albumin. Left ureter, urine neutral, opaque, "smoky," pus and blood cells. Nov. 17th: No pus in urine; free discharge of pus and urine from sinus. *Operation.*—Attempted nephrectomy; begin by peeling peritoneum from scar tissue; opened peritoneum inadvertently, at once closed: further separation impossible; removed large calculus from ? pelvis of kidney, having a rounded process of shape and size of ureter, one-third of an inch long; kidney tissue and scar quite inseparable; very severe hæmorrhage. Saline transfusion adopted. 18th: Sudden profuse hæmorrhage threatening life; condition very critical for some hours; hæmorrhage controlled by gauze packing.

Jan. 29th, 1905: Urine (vesical), clear, neutral, no trace of albumin; no pus or blood cells. May 2nd: Urine clear, normal; no shadow of calculus visible: abundant urine and pus from sinus. Cathelin's separator: Right ureter, urine clear, normal; none collected from left ureter. June 13th: *Operation.*—Laparotomy by Lennander's incision. Some difficulty in finding renal vein owing to enlarged lymph glands: vein ligated, then renal artery tied and divided. No accessory afferent vessels found. August 9th: Sinus in loin completely closed. 15th: Discharged quite well.

1907.—Letter to say patient remains quite well. Sinus has never reopened or given any trouble. Until the last operation it had been necessary to apply every day four or more very voluminous dressings; even these were often quite insufficient to take up all the urine and pus, his bed and clothes occasionally becoming soiled. There was not the least tendency to heal, nor did the amount of discharge and urine ever tend to lessen until after the final operation.

TWO CASES OF INFECTION BY THE PARATYPHOID B BACILLUS.

BY EDWARD A. GATES, M.D. LOND., M.R.C.P. LOND.

CASE 1. *Continued fever; four relapses: venous thrombosis; acute bronchitis; cholecystitis; lentigines; agglutination reaction with paratyphoid B bacillus.*—The patient was a woman, aged 54 years. After a week's malaise she took to her bed on Nov. 28th, 1906, and remained there until March 19th, 1907. The initial symptoms were intense headache, slight epistaxis, vomiting, and fever. There were a few roseolous spots on the chest and abdomen; the tongue was furred; the spleen was enlarged, descending two fingers' breadth below the costal margin, and the liver one finger's breadth. The right kidney was freely palpable. Constipation was present. The urine gave a well-marked diazo reaction and contained a trace of albumin with, microscopically, many white cells. On Dec. 3rd the blood serum was sent to the laboratory of the hospital of Santa Maria Nuova to be tested for the reaction with the typhoid bacillus. The report was returned that the reaction was positive. The other features of the case being so strongly in favour of this diagnosis the exact details of the reaction were not demanded until a much later date, when it was found that the test had only been made with a dilution of 1 in 40, and that it was at the end of three hours that agglutination was observed to have taken place both macroscopically and microscopically. The temperature gradually mounted, reaching its maximum (104·4° F.) on Dec. 5th, the pulse-rate varying between 88 and 104. After this the temperature declined gradually with daily oscillations of about 2°, the maximum on Dec. 20th being 100·6°. After this it gradually rose again and reached 103·2° on Jan. 8th, 1907, and continued irregularly raised until the 30th, when the patient had a severe rigor. Immediately after this for two or three days rhonchi were heard all over both lungs.

Up to this time, though the fever continued, the patient appeared to be making satisfactory progress, except for the fact that on Jan. 24th she had had pain in the left groin and inner side of the left thigh, with tenderness over the left femoral vein. This, however, subsided in a couple of days and was not accompanied by any œdema. There was now no headache, the mind was quite clear, the patient was cheerful, the bowels acted well to daily enemata, the urine was normal except for a fine trace of albumin, and food was well taken, consisting of one and a half litres of milk and two eggs daily. During the first fortnight of February the temperature oscillated between 98° and 100° but on the 14th it began again to ascend, reaching 103·6°, with a slight shivering attack on the 20th. The general condition remained excellent. There was no new symptom to account for the rise of temperature. On the 26th a few fresh rose spots appeared on the abdomen. During February the patient and her nurses observed that she had become extensively freckled on the face, trunk, and limbs, the spots on the last being stains as large as a shilling-piece. The patient declared that she had never before in her life had any freckling of the skin.

On Feb. 27th blood serum was taken and sent to the pathological laboratory of the University of Florence for examination of its reaction on typhoid and paratyphoid bacilli. The examinations were made by Dr. Menini, assistant to Professor Lustig, under Professor Lustig's personal supervision. The report was returned: "Agglutination test executed March 2nd, 1907, with the blood serum of Mrs. ——. In the dilution of 1 in 100 at the temperature of the room: Negative for the bacillus of typhoid (origin of culture, Berlin). Negative for the paratyphoid bacillus A (laboratory culture). Positive (in about half an hour) for the paratyphoid bacillus B (laboratory culture)."

From Feb. 25th the temperature had been slowly falling, and on March 2nd and 3rd had not risen above 99°. On March 3rd the patient began to have pain round the upper part of the abdomen. This pain was very severe during the night. On the following day the temperature rose with a slight shivering attack to 101·8°. There was great tenderness in the right hypochondrium but the outline of the gall-bladder could be mapped out, its lower edge reaching to the level of the umbilicus. There were no jaundice and no bile in the urine. The temperature was normal on the 5th and remained so for ten days. The tenderness soon subsided, but the enlargement of the gall-bladder had not wholly disappeared even on the departure of the patient from Florence in the middle of May. On March 13th fish was allowed and on the 15th minced chicken. On the 16th the temperature began to rise slightly but never above 100° and on the 28th it was normal morning and evening. On the 19th the patient was up for an hour, having been continuously in bed until this date from the 26th of the preceding November. At the beginning of April the temperature was again irregularly, though but slightly, raised, reaching 100·2° on the 8th and 9th, and did not become regularly normal until the 19th. On the 8th and 9th there was some return of the tenderness over the gall-bladder and the patient was kept in bed for three days. After she began to walk the left leg and thigh swelled to some extent, with pitting over the tibia. The swelling was not great and had already become less when the patient left Florence in the middle of May.

CASE 2. *Catarrhal jaundice; slight fever; agglutination reaction with paratyphoid B bacillus.*—The patient, aged 21 years, who was the daughter of Case 1 and lived in the same apartment, was taken ill with a "bilious attack" on Dec. 7th, 1906, and developed jaundice with symptoms of obstruction of the outflow of bile. There was slight elevation of temperature, but never above 100° F. The symptoms rapidly subsided except the slight rise of temperature, which persisted for a week and probably longer, as the patient, feeling quite well, was allowed up and the temperature was no longer taken. During the rest of the winter and spring she was in the best of health. After the blood serum of the mother (Case 1) had given such a decided reaction with the paratyphoid bacillus that of the daughter was also sent for examination at the pathological laboratory of the University and submitted by Dr. Menini to the same tests on March 6th with identical results—that is, the reaction was negative with typhoid and paratyphoid A bacilli, but positive in a dilution of 1 in 100 in half an hour with paratyphoid B bacilli.

Florence.

A CASE OF RECURRENT PNEUMOTHORAX.

BY JOHN CARUTHERS SALE, M.R.C.S. ENG., L.R.C.P. LOND.

ON June 3rd, 1906, I was called to see the patient, a well-developed woman, aged 21 years, by occupation a draper's assistant, who complained of pain in the right side of the chest and shortness of breath. The history of her illness was as follows. In July, 1901, she had a cough and began to spit up a little blood. She had never previously had a cough except when suffering from an ordinary catarrh. She had whooping-cough in childhood but had never had pleurisy or pneumonia. There was no history of tubercle in the family but her mother suffers from well-marked acromegaly. In August, 1901, about three weeks after she commenced to spit blood, whilst brushing her hair in the morning, she suddenly felt a sharp pain in the right side, which was worse on lifting the right arm. She also had a cough, was short of breath, and could not lie on her right side. When the pain came on the spitting of blood ceased. She was seen by a medical man who diagnosed pneumothorax. She was in bed for a month and resumed work at the shop in three months, feeling quite well. She was told at the time that she had not got consumption. In April, 1902, she had a similar attack which was not so severe. She stayed at home for a week but did not go to bed and did not consult a medical man. In August, 1902, she was again taken with shortness of breath and a dry cough but on this occasion had no pain. In each of the years 1903 and 1904 she had two attacks. On three out of the four attacks she was seen by a medical man who told her that she had pneumothorax but that he could discover no signs of consumption. In February, 1905, whilst staying at a distance she had another attack and was in bed for three weeks. The medical man who attended her there told her that it was another attack of pneumothorax and that her lungs were not diseased.

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According to the patient's account she has had ten attacks of pneumothorax. I think her account can be relied upon, for, so far as I have been able to ascertain, she can invariably diagnose her own condition with certainty. She knows the onset accurately. There is little shortness of breath as a rule, but there are usually some pain and a dry irritating cough which soon passes off. Between the attacks she has no cough or sputum and she has never had any hæmoptysis since the first attack of pneumothorax. In each attack, so far as I can ascertain, there has been a complete pneumothorax with no sign of fluid at any time during the progress of the case, yet sometimes she is very little affected, at others much distressed. Possibly the size of the opening may account for this variation, a small opening causing a ore gradual and therefore less distressing development of mptoms.

Most of the reported cases of recurrent pneumothorax an apparently healthy person have eventually turned out be tuberculous in origin. The hæmoptysis immediately receding the initial attack seems to point to that theory this case, but though it is now nearly six years ince the first attack no signs of pulmonary tuberculosis ave developed and the patient is becoming stouter and more obust. The largest number of attacks of pneumothorax n one person that I have been able to find is four in a case eported by Dr. D H. Gabb in the *British Medical Journal* of July 28th, 1888, and reprinted by Dr. Byrom Bramwell in vol. iv. of "*Clinical Studies.*" In this case there was no sign of pulmonary tuberculosis.

Since the above was written this patient has had another attack of pneumothorax, making 11 in all. The attack came on as she was walking in the street and was not attended by much distress. She insisted on going back to business in three weeks from the onset before the air was entirely absorbed and is apparently none the worse for so doing.

Skegness.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

DISLOCATION OF THE CLAVICLE DUE TO PROMINENT CERVICAL RIB.

BY F. D. BENNETT, M.R.C.S. ENG., L.R.C.P. LOND.

THE following case may be of interest as I am unable to find a similar one recorded.

A boy, aged 14 years, of normal physique came before me for examination and presented the following condition. On the left side was a prominent cervical rib projecting to, and touching, the clavicle about the centre. At first sight it presented the appearance of an old fracture of the clavicle with considerable callus around. During the passage of the clavicle over the end of the rib in elevation or lowering of the shoulder the sternal end of the clavicle to admit of its passage over the rib was dislocated forwards and returned to its normal position immediately the bone had passed above or below the rib. Owing to the difficulty of photographing the part some x ray photographs do not show the condition as I should have wished. The lad suffered no inconvenience and was unaware of any abnormal condition.

Weymouth-street, W.

A CASE OF OLD-STANDING DIAPHRAGMATIC HERNIA DISCOVERED POST MORTEM.

BY PENROSE WILLIAMS, M.R.C.S. ENG., L.R.C.P. LOND.

A MAN, aged 77 years, was admitted to the Bridgwater Hospital under my care for hæmatemesis with a history of difficulty in swallowing and wasting of several months' duration; he died rather suddenly within 40 hours.

At the necropsy the left side of the chest from the diaphragm to two inches above the horizontal nipple line was found to be occupied by an oval cystic swelling which proved to be the stomach. Behind it was a coil of intestine consisting of the whole of the transverse colon, part of the ascending colon, and the great omentum. The heart was displaced to the right, being entirely on that side of the middle line, and completely covered by portions of the right and left lungs. The right lung occupied a normal position but the left lung was pushed upwards and to the right and was shaped to accommodate the stomach. In the diaphragm to the left of the middle line and posteriorly was a horse-shoe shaped opening, having its convexity forwards and bounded posteriorly by the chest-wall; the margin was smooth, rounded, and thickened, and terminated behind in two "crura," one overlapping the other; the opening admitted four fingers on the flat, or the whole hand cone-shaped. The omentum was firmly adherent to the margin of the opening, the upper surface of the diaphragm, the chest-wall, and the left lung, and the fundus of the stomach was adherent to the left lung. The œsophagus apparently passed through the diaphragm in its usual position, the stomach thence passing abruptly back again into the chest through the accessory opening; the pylorus lay just below this opening; the other abdominal contents were normal except that the transverse colon passed in a straight line from the cæcum to the diaphragmatic opening, and the descending colon, which was empty and contracted to the size of a man's forefinger, passed in a straight line to the sigmoid flexure.

The dense adhesions, the characters of the opening, and the shape of the left lung, which was not merely displaced by pressure but had apparently grown into a hollow shell-like covering for the stomach, suggest that the hernia was not recent and not traumatic, and this, together with the unusual extent of the displacement, seems worth recording.

Bridgwater.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Lantern Demonstrations.—Colour Vision.—Syphilitic Affections of the Eye.—Rupture of the Pectinate Ligament.—After-Cataract.—Perinaud's Conjunctivitis.—Telangiectasis of Retinal Vessels.—Exhibition of Specimens.

A MEETING of this society was held on May 25th, Mr. J. PRIESTLEY SMITH, the President, being in the chair.

Mr. GEORGE COATS gave a lantern demonstration on the Pathology of Rupture of Descemet's Membrane. This was first discovered microscopically by Becker in 1875. Mr. Coats had found these ruptures in 12 of 13 cases of buphthalmos, and in two of eight cases of glioma with increased tension. They were absent in four cases of high myopia. The ruptured ends were sometimes found to be flat, and sometimes curled up, but the rupture itself was almost always covered with endothelium. At times extensive detachment of the membrane was found. Experimentally he found that the globe would give way before the membrane would rupture, but if the membrane was first scratched many features of the rupture could be reproduced.

Dr. F. W. EDRIDGE-GREEN gave an account of his observations with Lord Rayleigh's Colour-mixing Apparatus and showed a table which brought out the fact that there were extraordinary differences in the way in which people were able to match the colours. This was not due to any physical condition present but could be readily explained physiologically in accordance with his (Dr. Edridge-Green's) theory of colour vision.

Dr. ALEXANDER BRUCE gave a lucid lantern demonstration of the Third Nerve Nucleus and its surrounding parts

Mr. SYDNEY STEPHENSON described the present position of the Spirochæta Pallida in Relation to Syphilitic Affections of the Eye. After briefly reviewing the evidence in favour of the spirochæta pallida being the specific element of syphilis he described the special researches which had been made on the eyes of man and the lower animals. In congenital syphilis the organism had been found by Stock, Peters, Römer, Bab, and himself. He detailed the experiments of other observers who had produced interstitial keratitis in the eyes of monkeys and rabbits with syphilitic material from man and had found spirochætæ in the lesions thereby produced. As regards clinical syphilis of the eye, the organism had been found by himself and other observers, and he expressed his belief that the presence of Schaudinn's organism was the strongest possible proof of the syphilitic nature of any given disease of the eye or of any of its appendages.

Dr. LESLIE BUCHANAN showed a series of lantern slides of Preparations of Eyes of Invertebrates with the object of indicating that from the anatomical structure a certain amount of information can be obtained as to the degree of functional activity of which the organ is capable. The preparations included sections of the eye of the octopus, the clam, the spider, the caterpillar, the house fly, the bee, and the snail. Sections of the eye of the Australian mole and of the leech were shown to illustrate the fact that loss of functional activity leads to anatomical degeneration.

Dr. BUCHANAN also demonstrated a case of Rupture of

Up to this time, though the fever continued, the patient appeared to be making satisfactory progress, except for the fact that on Jan. 24th she had had pain in the left groin and inner side of the left thigh, with tenderness over the left femoral vein. This, however, subsided in a couple of days and was not accompanied by any œdema. There was now no headache, the mind was quite clear, the patient was cheerful, the bowels acted well to daily enemata, the urine was normal except for a fine trace of albumin, and food was well taken, consisting of one and a half litres of milk and two eggs daily. During the first fortnight of February the temperature oscillated between 98° and 100° but on the 14th it began again to ascend, reaching 103·6°, with a slight shivering attack on the 20th. The general condition remained excellent. There was no new symptom to account for the rise of temperature. On the 26th a few fresh rose spots appeared on the abdomen. During February the patient and her nurses observed that she had become extensively freckled on the face, trunk, and limbs, the spots on the last being stains as large as a shilling-piece. The patient declared that she had never before in her life had any freckling of the skin.

On Feb. 27th blood serum was taken and sent to the pathological laboratory of the University of Florence for examination of its reaction on typhoid and paratyphoid bacilli. The examinations were made by Dr. Menini, assistant to Professor Lustig, under Professor Lustig's personal supervision. The report was returned: "Agglutination test executed March 2nd, 1907, with the blood serum of Mrs. ——. In the dilution of 1 in 100 at the temperature of the room: Negative for the bacillus of typhoid (origin of culture, Berlin). Negative for the paratyphoid bacillus A (laboratory culture). Positive (in about half an hour) for the paratyphoid bacillus B (laboratory culture)."

From Feb. 25th the temperature had been slowly falling, and on March 2nd and 3rd had not risen above 99°. On March 3rd the patient began to have pain round the upper part of the abdomen. This pain was very severe during the night. On the following day the temperature rose with a slight shivering attack to 101·8°. There was great tenderness in the right hypochondrium but the outline of the gall-bladder could be mapped out, its lower edge reaching to the level of the umbilicus. There were no jaundice and no bile in the urine. The temperature was normal on the 5th and remained so for ten days. The tenderness soon subsided, but the enlargement of the gall-bladder had not wholly disappeared even on the departure of the patient from Florence in the middle of May. On March 13th fish was allowed and on the 15th minced chicken. On the 16th the temperature began to rise slightly but never above 100° and on the 28th it was normal morning and evening. On the 19th the patient was up for an hour, having been continuously in bed until this date from the 26th of the preceding November. At the beginning of April the temperature was again irregularly, though but slightly, raised, reaching 100·2° on the 8th and 9th, and did not become regularly normal until the 19th. On the 8th and 9th there was some return of the tenderness over the gall-bladder and the patient was kept in bed for three days. After she began to walk the left leg and thigh swelled to some extent, with pitting over the tibia. The swelling was not great and had already become less when the patient left Florence in the middle of May.

Case 2. *Catarrhal jaundice; slight fever; agglutination reaction with paratyphoid B bacillus.*—The patient, aged 21 years, who was the daughter of Case 1 and lived in the same apartment, was taken ill with a "bilious attack" on Dec. 7th, 1906, and developed jaundice with symptoms of obstruction of the outflow of bile. There was slight elevation of temperature, but never above 100° F. The symptoms rapidly subsided except the slight rise of temperature, which persisted for a week and probably longer, as the patient, feeling quite well, was allowed up and the temperature was no longer taken. During the rest of the winter and spring she was in the best of health. After the blood serum of the mother (Case 1) had given such a decided reaction with the paratyphoid bacillus that of the daughter was also sent for examination at the pathological laboratory of the University and submitted by Dr. Menini to the same tests on March 6th with identical results—that is, the reaction was negative with typhoid and paratyphoid A bacilli, but positive in a dilution of 1 in 100 in half an hour with paratyphoid B bacilli.

Florence.

A CASE OF RECURRENT PNEUMOTHORAX.

By JOHN CARUTHERS SALE, M.R.C.S. Eng.,
L.R.C.P. Lond.

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PATHOLOGICAL SOCIETY OF MANCHESTER.—A laboratory meeting of this society was held on May 8th, Dr. A. Hill Griffith being in the chair.—The following specimens, &c., were shown:—Dr. J. Cameron: Microscopical specimens illustrating the Peripheral Development of Nerve Fibres.—Dr. D. E. Core: (*a*) Microscopical specimens of Blood from a case of acute Lymphatic Leucocythæmia and (*b*) Verminous Bronchitis in a hedgehog.—Dr. E. N. Cunliffe: Blood films illustrating (*a*) a case of Splenic Anæmia of unusual type and (*b*) Lymphatic Leucocythæmia.—Dr. Hill Griffith: Pathological Eye specimens.—Dr. A. E. Johnson: Method of Sterilising Animal Ligatures.—Dr. Arnold W. W. Lea: Lantern demonstration illustrating various Micro-organisms occurring in Puerperal Septic Metritis.—Professor J. Lorrain Smith: An unusual case of Cirrhosis of the Liver.—Dr. G. E. Loveday: Wright's Method of Counting the Blood Corpuscles.—Dr. W. Mair: Hydrocephalic Brain in a case of Tuberculous Tumour of the Cerebellum.—Dr. C. H. Melland: Granular Degeneration of the Red Corpuscles in Lead Poisoning and other conditions.—Dr. H. H. McNabb: Methods of Mounting Eye Specimens, with examples.—Dr. J. G. McNaughton: (*a*) Congenital Absence of One Kidney, and (*b*) Cerebellar Abscess.—Dr. D. Orr and Dr. R. G. Rows: Sections showing Invasion of the Spinal Cord by Micro-organisms *viâ* the Spinal Nerve Roots.—Dr. A. Sellers and Dr. Sidebotham: The Bacteriology of Cerebro-spinal Meningitis.—Dr. C. Powell White: (*a*) Apparatus for Regulating the Temperature of a Warm Stage for the Microscope, and (*b*) Anisotropic Globules in Tumours.—Dr. R. B. Wild and Dr. C. S. O'Neill: An Improved Method for the Physiological Standardisation of the Digitalis Group.—Mr. R. H. Wolstenholme: Stomach of a Horse with Larvæ of the Gastrophilus equi *in situ*.

THE ROYAL BRADFORD EYE AND EAR HOSPITAL.—The Bradford Eye and Ear Hospital, which was founded in 1857 by the late Dr. Edward Bronner and will this year celebrate its jubilee, is in future, by the permission of the King, to be called "The Royal Bradford Eye and Ear Hospital." It is now one of the largest special hospitals in the kingdom and contains 45 beds During last year 7270 new patients were treated, 1091 in-patients were admitted, and 1034 major operations were performed, including 160 extractions of senile cataract. Since the foundation of the hospital 153,848 cases have been treated and 20,791 major operations have been performed. The present hospital is too small for the large number of in- and out-patients and the committee is considering the question of building a large separate out-patient department.

Reviews and Notices of Books.

Geschichte der Medizin (*History of Medicine*). Von Dr. MAX NEUBURGER, ä.o. Professor für Geschichte der Medizin an der k.k. Universität in Wien, &c. I. Band. Stuttgart: Ferdinand Enke. 1906. Pp. 403. Price M.9, or 9*s*.

HOWEVER distinct the various sciences may appear they are yet only branches of human knowledge and are largely influenced by each other and by current metaphysical and even ethical opinions. The science and art of medicine are thus to a great extent dependent on a variety of surrounding circumstances, and it has been the aim of the author in the work before us to trace the gradual development of the healing art in connexion with that of knowledge in general and to point out the traces which are to be found at different epochs of the moulding of its tenets in accordance with the philosophy of the day. In the earliest times, as represented by the civilisations of Babylon and Egypt, superstition of all kinds was rampant. Gods and demons were believed to interfere directly with all the affairs of human life, and charms and incantations were an important part of medical procedure. Yet as knowledge grew and the mechanical and physical sciences were evolved medicine tended to develop on scientific lines; a large number of medicinal substances were recognised and surgery reached a considerable degree of technical efficiency. In Greece where superstition was early thrown off and free speculation pushed into all regions of the unknown rational medical methods were soon elaborated, and beside the spiritualistic and occult rites of the Orphics and other *mystics*, schools of medicine came into existence in association with various temples and priestly orders, at which a surprising degree of real knowledge appears to have existed. About the period of the highest intellectual development of the Greek race, in the fifth century before Christ, arose the great master of medicine—Hippocrates—whose name is still synonymous with the spirit of the true physician. Discarding all reliance upon occult influences and regarding all diseases as equally due to natural causes—*none* more directly sent from heaven than another—he pointed out the sure way to advance the knowledge of medicine, by careful observation of clinical phenomena, and at the same time laid down those canons of professional conduct which are still regarded as binding on the physician in his relations with the sick. Just as Socrates represents the application of the inquiring Greek spirit to the philosophy of ordinary life, so Hippocrates personifies the scientific spirit in medicine, the refusal to be bound by preconceived theories and the recognition of the good of the individual patient as the object at which to aim. After his death, with the decadence of Greek intellectual life, a large number of different sects arose, each insisting on some one aspect of the problem of disease and neglecting that sane appreciation of the whole subject which alone enables us to see order among a chaos of details, instead of distorting the facts to fit a fine-spun metaphysical theory. With the conquests of Alexander and the spread of the influence of Rome Greek methods of thought were distributed throughout the world and brought under their influence Asiatic and African races as well as those of Europe. The silver age of Greek literature at the court of the Ptolemies corresponded with a development of the arts and sciences, and the practical side of medicine was advanced by such teachers as Herophilus and Erasistratus. Anatomy and surgery were brought to a high pitch of development, whereas little of importance was added to the field of pathology. In Rome medical knowledge owed everything to imported Greek culture; no original writer of any importance arose among the

the Pectinate Ligament. A man was struck on the left eye by a broom handle at the end of June, 1906. Amongst other injuries to the eye there was what appeared to be a large coloboma of the iris in a downward and inward direction accompanied by high tension and loss of vision. The case was considered to be one of rupture of the pectinate ligament with displacement of the iris and ciliary body backwards along the sclera. As the eye continued to be painful it was excised in January, 1907, when, after histological examination, the diagnosis was proved to be correct. Microscopic preparations were shown.

Dr. ANGUS MCGILLIVRAY read a paper on the Treatment of After-Cataract. To obviate the dragging on the ciliary body and the risk of cyclitis he divided the capsule diagonally from above downwards and inwards by very short and steady sawing movements by means of a specially designed cutting needle. Since adopting this sawing method of dividing opaque capsule after cataract extraction little or no trouble had been experienced; so little, in fact, that he did not now hesitate to divide an opaque capsule when the vision was, from this cause, below $\frac{6}{12}$ths.

Dr. MCGILLIVRAY also showed a very convenient Storage Battery for ophthalmic use.

Dr. ARTHUR H. H. SINCLAIR and Dr. THEODORE SHENNAN described a case of Perinaud's Conjunctivitis in a man, aged 61 years, who was a painter's labourer. The left eye became affected during the third week in July, 1906. About three weeks later the surrounding lymphatic glands became enlarged. The patient was under observation for four months and had not completely recovered when he ceased his attendance and could not be further traced. Dr. Shennan described carefully the histological and bacteriological condition found. Two varieties of staphylococci were the organisms discovered.

Dr. W. B. INGLIS POLLOCK described a case of Telangiectasis of the Retinal Capillaries and Venous Radicles. The condition followed on fracture of the left side of the skull, due to a heavy weight falling upon the head. He showed an ophthalmoscopic drawing of the fundus.

Numerous card specimens were shown.

Dr. SINCLAIR showed: (1) A Collapsible Apparatus for Testing the Field of Vision; (2) the charts from a case of Glaucoma, showing remarkable restriction of the fields of vision in both eyes; and (3) a case of Retinitis Punctata Albescens.

Dr. BRUCE showed two cases of Intracranial Neoplasms.

Dr. ROBERT A. FLEMING gave a microscopical demonstration of an Optic Neuritis in Relation to Intracranial Tumours, with special reference to the changes in the neuroglia cells.

Dr. E. BRAMWELL exhibited: (1) A Brain showing Occipital Abscess from a case in which epileptic fits were preceded by visual auræ and in which hemiachromatopsia developed; and (2) a case of Ocular Palsy, with Congenital Absence of Cranial Nerve Nuclei.

Mr. G. A. BERRY showed several cases. He exhibited a Loupe for the Use of Myopes and Test Objects for Illiterates.

Dr. G. MACKAY exhibited some Unusual Clinical Cases and Coloured Drawings.

Dr. W. G. SYM showed a case of Complete Congenital Anophthalmos and other cases.

Dr. J. V. PATERSON showed a case of Tubercle of the Conjunctiva and a well-marked case of Reticular Keratitis.

Dr. A. MAITLAND RAMSAY exhibited on Opaque Projector for Teaching Purposes and some Pathological Specimens.

Lieutenant-Colonel H. HERBERT, I.M.S., gave a lantern demonstration of the Sinuous Lid Border as a sign of Trachoma.

EPIDEMIOLOGICAL SOCIETY.—At a meeting of this society on May 31st Dr. Axel Holst, Professor of Hygiene of the University of Christiania and Foreign Secretary for Norway, said that the symptoms of ship beri-beri consisted in weakness and a pronounced dropsy of the lower limbs, extending often to other parts of the body. There were also shortness of breath and other symptoms of a weak heart, causing not infrequently sudden death from acute cardiac paralysis. Considering that neuritis was the essential symptom of the beri-beri of tropical countries and Japan it seemed rather doubtful whether ship beri-beri was identical with it. Further, the great majority of patients suffering from the ordinary—i.e., dropsical—ship disease recovered as soon as they were able to change their diet, which was not the case with the disease of the tropics and Japan. Proceeding to the question what defects of the food might be able to cause ship beri-beri, he said that the Norwegian sailors nearly always used on long voyages soft bread of an inferior quality, to a large extent raw and baked without yeast. The sailors on long voyages were mostly compelled to use dried potatoes instead of fresh ones, because the latter did not easily keep in the tropics. Dried potatoes, however, as well as dried green vegetables, during the North American War of Rebellion proved to be of no value as a remedy against scurvy. At the same time they were, in course of their preparation, usually boiled in water containing some hydrochloric acid before being dried. Norwegian sailors ate very freely of tinned meat that had been strongly heated. Such meat might, however, have lost some of its anti-scorbutic power, or it might even be able to produce scurvy, because strongly heated milk seemed to be able to produce infantile scurvy. Dr. Holst showed from his experiments on pigeons that bread of wheat-flour—i.e., the flour ordinarily used by Norwegian sailors in tropical waters—was much more injurious than rye bread. The experiments further showed that the effect of wheat bread prepared with baking powder similar to the poor quality bread used by the Norwegian sailors on long voyages was more injurious than that of bread baked with yeast. The latter difference could not be ascribed to any poisonous effect of the baking powder, because the rye-bread, prepared in the same way, did not produce the same result. From experiments on chickens it seemed evident that beef was able to produce polyneuritis in chickens, even when boiled at a lower temperature than the 120° C. usually reached in the manufacture of tinned meat, and the polyneuritis must be considered as due to a special injurious effect of the nutriments applied. The beef had always recently been boiled. The effect of the strongly heated beef could only be ascribed to a decomposition of one or more constituents of the beef produced by the high temperature or high steam pressure used in the boiling. The experiments were of interest on account of the additional light which they threw upon the deterioration of food by strong heating. That point was important not only in regard to the nutritive value of tinned food but also in reference to the steam boiling of different articles of food used in modern hospitals, because the latter was often carried out at a temperature of about 110° C., which temperature when applied for half an hour produced alteration of the nutritive elements of beef.—Dr. Axel Holst and Dr. Theodor Frölich contributed a paper on the Etiology of Scurvy, showing that a diet consisting of grains, groats, and bread, regularly produced in guinea-pigs a disease that was macro- as well as micro-scopically identical with scurvy. On the other hand, this disease did not appear when the animals were fed on fresh cabbage or boiled fresh potatoes only. Again, it was produced by an exclusive feeding on dried potatoes. It was further found that the disease was influenced favourably by the nutriments which were known in human pathology as "anti-scorbutica," but that cabbage lost some, but not all, of its anti-scorbutic power when boiled for half an hour at 110° C. Examples were given showing that the same or similar nutriments that produced the disease in guinea-pigs had also produced scurvy in man. On the other hand, they had not hitherto been able to produce the malady known as ship beri-beri. It was true that they had repeatedly seen, after an addition of anti-scorbutic nutriments to grains or bread, the occurrence of a disease with œdema, but without hæmorrhages. The œdema, however, did not occur regularly, nor was it accompanied by neuritis. They were, therefore, at present not able to form any distinct idea as to the causation of ship beri-beri. The same applied to the question as to the precise causes of the influence of certain diets.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on May 17th at which the Wightman lecture was delivered by Dr. Frederick Taylor on Pneumonia in Children. He discussed the relative frequency of lobar and broncho-pneumonia in children. He mentioned that till the test of inflation was systematically employed collapse was confused with broncho-pneumonia; when this was demonstrated it was considered that the previous error had led to an under-estimation of the importance of lobar pneumonia in children. This had led to many papers on the subject. Clive Riviere stated that the greatest incidence of lobar pneumonia was in the second year of life and after that in the third year. Vere Pearson also found croupous pneumonia more common in infancy than in any other age of childhood. Bertram Abrahams regarded it as a common affection from the age of two years upwards. Ashby considered it more common after the first two years. In Guy's Hospital Dr. Taylor found during one year 35 cases as "occupied"; and of the males 1,399,969 were occupied and 273,916 unoccupied. Further, as regards occupation, the compilers divide each of the sexes into five groups, comprising "orders" or trades arranged according to the importance of the number of persons employed therein. Of the occupied males, 781,798, or 55·8 per cent., of them were employed in the conveyance of men, goods, and messages, in building, in providing food, tobacco, drink, and lodging, in commercial life, and as general or undefined workers and dealers; while 367,545 others of them, or 26·3 per cent., were employed in the following "orders"—viz.: (1) metals, machines, implements, and conveyances; (2) dress; (3) professional; (4) paper, prints, books, and stationery; and (5) wood, furniture, fittings, and decorations. These two groups account for 1,149,343 of the occupied males, or 82·1 per cent. of the total thereof occupied. The balance of them—viz., 250,626 men, or 17·9 per cent.—is made up by the remaining three groups comprising 12 "orders."

Of the occupied females, 586,841, or 81·8 per cent., of them were employed in domestic offices and services, in dress, in professional occupations, and in providing food, tobacco, drink, and lodging. The balance of them—viz., 132,490 females, or 18·2 per cent.—is made up by the remaining four groups comprising 16 "orders." In London in 1901 the greatest number of occupied men was employed in the conveyance of men, goods, and messages to the extent of 243,924, or 17·4 per cent., of the total occupied men, and the greatest number of occupied females was employed in domestic offices and services to the extent of 328,337, or 45·8 per cent., of the total occupied women. It is a case of transportation and domestication. The book then proceeds to deal by means of diagrams and tables with the proportion of the various orders of the occupied in the 29 metropolitan boroughs, of which Islington, Lambeth, Stepney, Camberwell, St. Pancras, and Wandsworth, in descending order of magnitude, include over one-third of the population of the county of London, and of which Wandsworth, Woolwich, Lewisham, Camberwell, Lambeth, Greenwich, and Hackney, include over half the acreage. The proportion of males to females varies greatly in the different boroughs. Thus in Kensington there are more than three women to every two men, but in Woolwich men outnumber women, which is doubtless due to the numbers at the Arsenal and in the army. The first general feature is the predominance in the boroughs of the same orders as in the county as a whole. As regards domestic service a table shows that in Hampstead there were 16,998 families or separate occupiers and 13,843 domestic indoor servants, male and female, and in Kensington 38,349 families and 30,670 servants—that is, 80 per cent. of the families had servants, whereas in Shoreditch only 5·7 per cent. of the families had servants. In the general or local government of the country there were engaged eight males to one female. Men engaged in the defence of the country were distributed mainly at Woolwich, Westminster, Greenwich, Kensington, and St. Pancras.

Those males occupied in "professional occupations and their subordinate services" are distributed chiefly among the following boroughs in order of their importance: Lambeth, Islington, Kensington, Wandsworth, St. Pancras, Westminster, Camberwell, and St. Marylebone; while the females thus occupied are chiefly resident in Lambeth, Islington, Wandsworth, Hackney, Kensington, and Camberwell. We are told that "the medical profession is one of the few occupations in which women outnumber men, this being accounted for by the large number (nearly 16,000) of women engaged in nursing." We presume that the term "medical profession" as here used is meant to include ancillary or "subordinate services." We are told also that "there are 92 women doctors and surgeons in London, as against 4709 men. The expression "doctors and surgeons" is quaint. It is stated that there are no women veterinary surgeons, engineers, or surveyors in London. The boroughs which have the largest proportion of male and female clerks are Islington, Camberwell, Lambeth, Hackney, and Wandsworth. The women have been gaining on the men at a rate probably too high to last and already form nearly 20 per cent. of the total. More than one-third of the men and more than one-fourth of the women engaged in tailoring in London are to be found in Stepney. Of men under "sanitary service" nearly half are found in Islington, Lambeth, Stepney, Paddington, and St. Marylebone. Speaking roughly, in the whole of London about one-third of the total unmarried women over 15 years of age are engaged in domestic services.

These are only a few of the interesting points. The book contains numerous diagrams and we agree with Mr. Loch that "to read it well the text and pictures have to be studied together and then recast in the mind so as to form living 'pictures' of the industrial life of the country, or of the metropolis, or of the metropolitan boroughs."

LIBRARY TABLE.

On the Evolution of Wound Treatment during the Last Forty Years. By Sir HECTOR CLARE CAMERON, M.D. Glasg. Glasgow: The University Press. Pp. 98.—Under this title are published the two James Watson lectures delivered in 1906 which were then briefly reported by our Glasgow correspondent; their issue in book form is opportune, for in a year that has heard much said in Lord Lister's honour no better tribute to his epoch-marking work has been paid than is afforded by this book. Its distinguished author had the privilege of assisting Lord Lister in his pioneer work at Glasgow, and these lectures have passed under the eye of the master himself, so that the record which they give of the evolution of modern surgical methods is doubly trustworthy. Sir Hector Cameron is very naturally a firm adherent of the true Listerian methods and deprecates the differentiation of a so-called "aseptic" school of teaching; he urges that the reaction that caused it was entirely due to a misconception of Lister's methods which were successfully practised by their author until he retired from practice 11 years ago, and gives his own experience to show that simple "antiseptic" methods are as safe and trustworthy as, and far less cumbersome than, those which have called into existence the elaborate machinery of the modern operating theatre. He points out that the criticism so often passed on Lister's earlier methods of carbolised "putty" and shellac dressings, that these were devised to seal up wounds, arises from a complete misconception of their application and gives their inventor the credit of introducing the now universally employed open-meshed gauze for surgical dressings. A very interesting note by Lord Lister is appended on the preparation of the perfected "double cyanide" gauze, in which he gives good reason why this dressing should be moistened in carbolic and not perchloride lotion. The story of Lister's final abandonment of the carbolic spray, when he at length became convinced that it was not necessary, eloquently testifies to the splendid absence of prejudice that he has shown throughout his life work. This little book is a fascinating addition to recent surgical history and may be very profitably read. We are surprised at the author's statement on p. 30 that cat-gut is now almost universally employed in tying arteries; this is certainly not the case in London.

Glimpses of American Surgery in 1906. By C. HAMILTON WHITEFORD, L.R.C.P. Lond., M.R.C.S. Eng. London: Harrison and Sons. Pp. 63. Price 2*s.* net.—The author of this little book has jotted down the impressions of the practice of surgery in America that he gathered during a adherents of the old empirical methods of Italy. The writings of Pliny and Celsus in the days of the empire are valuable storehouses of information as to the history of medicine and show the advances made by the practical Roman mind when stimulated by Greek theory, and still later the names of Aretæus, Rufus, and Soranus form landmarks on the road of progress. Finally, by the genius of Galen the scattered facts and theories observed and elaborated by many predecessors were united into a complete methodical system and his works remained until comparatively recent times the recognised authority in all medical matters.

Professor Neuburger has written an interesting, indeed a fascinating, book, and we shall await with impatience the appearance of the second volume which will presumably deal with mediæval medicine and bring us through the dark ages into the dawning light of the Renaissance, and finally to the wonderful illumination of all the sciences which was the glory of the past century. We can only hope that the second volume will equal the first in merit and that the whole book will find a translator into our own language capable of doing justice to the excellence of the original.

Hypnotism or Suggestion and Psychotherapy. By Dr. AUGUST FOREL. Translated from the fifth German edition by H. W. ARMIT, M.R.C.S. Eng., L.R.C.P. Lond. London: Rebman, Limited. 1906. Pp. 370. Price 7*s.* 6*d.* net.

THIS book is the first English edition of Dr. Forel's work on Hypnotism and is a translation of the fifth edition of this writer's well-known work. The opening chapter is, as the author states, of a theoretical nature and much psychological deliberation is required in order to grasp it. After briefly referring to "The Theory of Mneme" of Richard Semon, he rapidly reviews certain data which go to prove that we have no right to presume that consciousness itself has no part in the activity of the brain, nor is it correct merely to study the phenomena of superconsciousness for "the contents of our superconsciousness is always influenced and caused by hypo-conceived activities of the brain." He devotes several pages to the study of Dualism and Monism. He speaks of "monistic identity" rather than psychophysical parallelism and brushes aside as scientifically untenable the dualistic hypothesis. He makes a distinction between "pure scientific monism" (the hypothesis of identity) and "metaphysical monism." The latter teaches that there is nothing "psychical" without being at the same time "physical"; further, there is no "matter" without "energy" and no "energy" without "matter," consequently there can be nothing "soulless" (Unbeseeltes) in the world. The "hypothesis of identity," according to Dr. Forel, is not so wide, for "it is content to accept the identity of being of every psychical phenomenon, which is available for direct psychological observation, with its so-called brain-physiological correlative, and leaves the hypothesis of the 'soul' to metaphysical speculation." The second chapter deals with the conditions of consciousness, and reference is made to some personal researches of the author.

Under General Remarks on Hypnotism Dr. Forel briefly reviews the theories held by the various schools on this subject. He casts aside "Mesmer" and the "materialisation of spirits," and equally objects to the somatic theories; and finally concludes his remarks on this subject by saying, "there is therefore only one theory which stands in accord with the scientifically assured facts of hypnotism, and which explains the same satisfactorily, and this is the 'suggestion' theory of the Nancy school. All the others are built on misconceptions." When discussing sleep Dr. Forel states that "the relationship of hypnosis to normal sleep is unmistakeable." Although agreeing that in many ways sleep-consciousness appears to resemble hypnosis, viewed from the evolutionary standpoint the association between the two is difficult to connect. Is it due to auto-suggestion that the infant sleeps? It certainly cannot be the result of habit when it occurs in the opening hours of a child's existence, however much of a habit it may ultimately become. The author deals with many interesting subjects in the chapter on Suggestion; especially instructive are the sections on resistance of the hypnotised person, amnesia, suggestion as to time, "hallucination rétroactive," or suggested falsification of memory and its relation to those false accusations so commonly made by insane persons. In a subsequent chapter, when discussing suggestion and disorders of the mind, the author writes: "I cannot emphasise sufficiently that suggestibility is an absolute normal characteristic of the normal human brain," and he strongly controverts the Charcot school who define hypnosis as a form of hysteria.

Dr. Forel differs from an authority such as Wetterstrand in his belief in the efficacy of hypnosis in cases of epilepsy, for he considers that only a limited number of these cases are curable by suggestion. The author makes a strong reply to Dubois's book entitled "Les Psychonévroses et leur Traitement Moral" and severely criticises many of this writer's opinions. In the chapter on Hypnotism and Psychotherapy Dr. Forel records many interesting cases which he claims to have cured by hypnotic suggestion and these cases consist of persons suffering from disorders of the menstrual function, constipation, insomnia, and so on. The author makes a direct attack on medicinal therapy and directs against it a scathing criticism. A certain amount of what Dr. Forel states may be true but he is too carried away in the belief in his own subject to be free from bias. On p. 188 we read that "of all people the insane are the least suggestible, and those whose mental disturbances are severe are usually absolutely unsuggestible." Therefore even from Dr. Forel's standpoint they are fair persons on whom to watch the effects of drugs, for here we can largely eliminate the power of suggestion, and yet unfortunately for his argument drugs act with equal potency on the insane as on the sane. The author is too reckless in his statements, for in his annoyance at the many unwarrantable charges that have been from time to time hurled at the school of "suggestion" he makes equally extravagant statements which would be difficult to substantiate. Referring to the subject of crime in its relationship to hypnosis the author states that he is convinced "that every conceivable crime may be committed on a hypnotised person, provided that a higher degree of hypnosis is attained." Nevertheless, he believes this danger can be over-rated as it is possible by suggestion to protect the hypnotised from the influence of unscrupulous persons. We cordially agree with Dr. Forel when he states "that public exhibitions of hypnotised somnambulists ought to be rigidly prohibited on the ground that they represent a gross nuisance which is detrimental to public morals and public health."

Except for the chapter on therapeutics we have no hesitation in recommending this work as a useful text-book on hypnotism, as it contains much valuable information, and Mr. Armit can be congratulated on his careful translation.

Employment Pictures from the Census. By M. G. SPENCER and H. J. FALK, M.A. With a Preface by C. S. LOCH, D.C.L., LL.D. London: P. S. King and Son. 1906. Pp. 101. Price 2*s.* 6*d.* net.

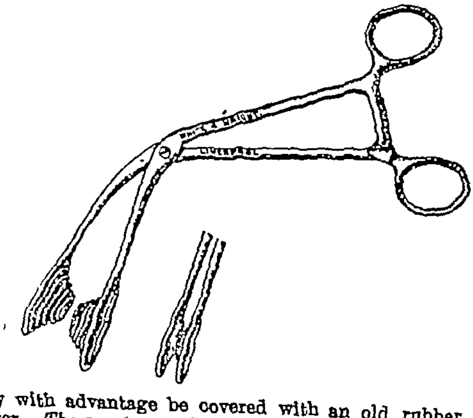
THIS book must be read with imagination as, in the words of the writer of the preface, "the figures are people—men and women—they are a vivid interpretation of life." We cull from it the following particulars. The total population of the County of London on March 31st, 1901, was 4,536,541 persons, comprising 3,598,253 persons older than ten years of age and 938,288 children under that age. The numbers of each sex were, of the older persons, 1,924,368 females and 1,673,885 males; of the children, 470,088 girls and 468,200 boys. As regards occupation, of the females 1,205,037 are classed as "unoccupied" (we do not know what the ladies themselves would say to this) and 719,331 examination and give directions for the collection of specimens of blood, sputum, diphtheritic swabs, and the like. The Post-Office regulations for the transmission of such substances by post are also given in full.

The Gentleman's Magazine.—The number for the current month has some very interesting articles. Mr. Lewis Melville recalls the career of that Frederick Prince of Wales of whom his father said, "My dear first-born is the greatest ass, the greatest liar, the greatest canaille, and the greatest beast in the whole world, and I heartily wish he was out of it." This is a hard verdict but it must be said that "Fred, who is dead," was not an estimable character. Mr. Carl Bock's article upon Chinese Beggars will be quite news to many. They have an official chief who has an income of about $15,000 per annum. Again, there are Imperial Beggars who are descendants of the ancient Ming dynasty. They "obtain a livelihood by swearing false oaths in court." Mr. C. W. Brodribb gives us a little dialogue between an Incunabulum (which, we may remind our readers, is the title given by German bibliophiles to an early printed book) and its owner, the book in question being a Tacitus, and Mr. C. H. Dant describes the ceremonies of that curious survival of ancient folk-rites, the Helston Flora Day.

New Inventions.

"FINGER-GRIP" FORCEPS.

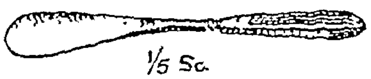
THESE forceps are intended to take the place of the finger and thumb in grasping any organ, such as the uterus, without damaging it. The blades terminate in oval rings into which are fixed cone-shaped springs. The apposition of these resembles the action of the "pads" of the finger and thumb in grasping and holding a soft organ. The blades may with advantage be covered with an old rubber glove finger. The great superiority they possess over the ordinary finger-grip of an assistant is security of grasp and the small amount of space occupied—that is to say, the hand of the assistant is not in the way. They have been made for me by Messrs. White and Wright, 93, Renshaw-street, Liverpool, and may be obtained in two sizes.



W. BLAIR BELL,
Assistant Gynæcological Surgeon, Royal Infirmary, Liverpool.

A PERINEAL "HORN."

Messrs. Fannin and Co. of Dublin have made to my design a simple instrument which may be called a perineal horn. It is practically the principle of the shoe-horn reversed. I have put it to many tests and am convinced that by its use rupture of the perineum will become a complication of much less frequency. In every case in which it has been used the perineum has never caused the slightest anxiety and needles and sutures are now omitted from my midwifery bag. The action of the perineal horn is that of a protector to the maternal tissues and a distributor of the pressure over the internal surface, preventing that initial rupture of the wall of the vagina of which the perineal tear is only the outward and visible sign. It will be observed that the rent takes place generally after the birth of the forehead and occurs simultaneously with the elastic rebound of the perineum. The perineal horn inserted between the child's face and the posterior vaginal wall takes all undue strain off the tissues, internal and external, equalises the pressure, and affords a smooth surface along which the child's face glides. By manipulation the pressure on the thinned-out margin of the perineum can be transmitted posteriorly.



JOHN F. ELLIOTT, L.R.C.P. & S.Irel.
Verulam, Natal, S.A.

ASYLUM REPORTS.

Kingseat Asylum, Aberdeenshire (Annual Report for the Year ending May, 1907).—The second annual report on Kingseat Asylum has just been issued by Dr. H. de M. Alexander, the medical superintendent. The total cost of the asylum at May 15th, 1905, amounted to £125,335. During the year ending May 15th last there was added to the providing account the sum of £5515 for the improvement of grounds, &c., making a total cost of £130,851 at that date. For the year ending May 15th last the total cost of maintenance amounted to £9471 and the average number of patients for the year being 375, the cost of maintenance per patient was £25 6*s.* 5½*d.* The reports on the asylum by the Commissioners in Lunacy continue to be satisfactory. On Dec. 31st, 1906, there were on the register 412 patients, of whom 216 were men and 196 were women. The most prevalent forms of mental disease among admissions were acute melancholia, acute mania, and delusional insanity due to alcohol. Six patients, all men, were admitted suffering from general paralysis of the insane. Among the assigned causes of insanity 29 patients were hereditarily predisposed and eight had suffered from one or more previous attacks. Among the physical exciting causes alcohol accounted for 18 cases, pregnancy and lactation for seven, general paralysis for six, acquired epilepsy for three, influenza for three, acute rheumatism for one, and injury to the head for one. Neurotic inheritance was probably present in all cases where the exciting cause of the mental attack was attributed to alcohol, as in those cases where inquiry into the family history proved futile the presence of neurotic stigmata in the individual told its tale. In connexion with moral causes five were assigned to emotional stress. The discharges during the year numbered 71. 29 men and 26 women were discharged recovered. The percentage of recoveries on the admissions was 41·6. Of those discharged unrecovered five men and three women were transferred to other asylums, three men and four women were "boarded out," and one man was discharged by escape—this man broke his parole and not being taken back within the statutory period of 28 days he was discharged. The deaths numbered 34—18 men and 16 women. The chief causes were pulmonary tuberculosis, senile asthenia, and valvular disease of the heart. Tuberculous disease of the lungs was definitely ascertained on admission in only one of the seven patients who eventually died from that disease. It must be remarked, however, that in the insane it is almost impossible to diagnose the incipient stage of tuberculous disease of the lungs. All these patients suffered from incurable mental disease and from those particular varieties of chronic insanity with which tuberculosis is unfortunately so often associated. Three accidents occurred to patients during the year. One was a case of fracture of the humerus, another a slight accident in the laundry, while the third was a case of ruptured intestine caused during a struggle between a warder and a refractory patient. Into this last case the usual inquiry was held and no blame was attached to the attendant. On Dec. 31st, 1906, there were 86 vacant beds, 33 male and 53 female, and although the decrease in the admission-rate for the year must be regarded as exceptional, nevertheless the accommodation at Kingseat Asylum is ample to meet the requirements of the district for some time to come.

visit to that country last year. Many years ago, when the late Frank Buckland's "Curiosities of Natural History" was issued, one reviewer remarked, "It reads like the contents of a note-book thrown out pell-mell," and we feel inclined to repeat that saying of the present small work, with the proviso, however, that this was probably just what its author intended. Most of the observations refer to differences of detail between English and American methods and they include some interesting information, especially that about the "Mayo clinic." The author's conclusion is that "American surgery is, with one notable exception—that of the treatment of the vermiform appendix—of the highest class, being based on logical reasoning and common sense." We acquiesce in his exception, at least as far as that hospital is concerned of which Mr. Whiteford remarks: "A grand total of 1031 appendices removed from 2727 patients."

The Poetical Works of John Keats. Edited by H. BUXTON FORMAN. The Oxford edition. London: Henry Frowde. 1907. Pp. 486 and index. Price 3*s.* 6*d.*—Medical men have not infrequently written verses and some have written poetry and there is at least one medical real poet at the present day. But of all medical poets Keats stands on Parnassus' top and we are most grateful to both Mr. Forman and Mr. Frowde for this admirable edition. It consists of the whole of Keats's known works in verse, with footnotes giving variorum readings, a most interesting introduction, two portraits, and facsimile titles, so far as the type goes, of Keats's three books. We hope that "The Oxford" Poets will eventually include an edition of Cowley, who was both a poet and a D.M. of the University of Oxford, though as he obtained the degree "by order of the Government," it is possible that his medical knowledge was not profound.

Notes on Hastings and St. Leonards. By A. SCARLYN WILSON, M.B., D.P.H. Cantab., Medical Officer of Health of the Borough.—This little brochure sent to us by the mayor of Hastings gives good reason for the claim of that old town to be considered a fine health resort; indeed, such a reminder can hardly be necessary to anybody who has spent a winter in St. Leonards and basked in December or February sunshine on the "White Rock" parade, but to others it gives the information that the Campbell Stokes' recorders show a sunshine record during the last five years which alone serves to recommend it to invalids. The meteorological data supplied by Mr. H. Colborne, M.R.C.S. Eng., the borough meteorologist, are very full. An attraction that Hastings can also claim for those not confined to the town by ill health is the beautiful and interesting nature of the country that constitutes its "*hinterland.*" We congratulate Dr. Wilson on the attractive arrangement of his brochure.

London Botanic Gardens. By PIERRE E. F. PERRÉDÈS, B.Sc. Paper No. 62. London: The Wellcome Chemical Research Laboratories.—This paper gives a most interesting account of the development and present conditions of the various London Botanic Gardens—i.e., the Royal Horticultural and Botanic Societies' Gardens, the Kew Gardens, and the delightfully named Chelsea Physic Garden. It is to the last and oldest that half of the book is devoted and we are told in the introduction that this and all the other public botanic gardens owed their inception to the collections of private herbalists in the seventeenth century. The Chelsea Garden was founded by the Society of Apothecaries of London in 1673 and in 1722 Sir Hans Sloane, the illustrious President of the Royal College of Physicians of that date, who was the lord of Chelsea Manor, presented it, under certain light conditions, to the Society, "to the end," as the deed of conveyance has it, "that the said garden might at all times thereafter be continued as a physick garden, and for the better encouraging and enabling the said Society to support the charge thereof, for the manifestation of the power wisdom and glory of God in the works of the creation, and that their Apprentices and others might better distinguish good and useful plants from those that bore resemblance to them and yet were hurtful, and other the like purpose." The troublesome task of distinguishing between official specimens may well have been less irksome in that old-world garden than amongst the dried-up preparations that confront the student in the modern materia medica museum. It is pleasing to note that one of the duties laid down for the curator or praefectus horti was to accompany students in summer "herborisings" or botanical field days when he was "desired to use his best endeavours to preserve strict decorum among his pupils, and for directing and confining their attention solely to the intended business of the day"—a very necessary injunction, we have no doubt. The history of the gardens up to the present day including their re-establishment as an adjunct to the botanical schools of London under a committee is fully given; it is interesting to note that the latter includes *ex-officio* the Earl of Cadogan as the lineal descendant of Sir Hans Sloane whose statue in the gardens still testifies to his ancient generosity. The other botanical gardens of London are well described and lists are given of the medicinal plants occurring in all of them. The paper is well illustrated with reproductions of photographs and plans which include an elaborate eighteenth century "survey" of the Chelsea Garden. The author and the publishers are to be congratulated on having issued such an acceptable paper.

JOURNALS AND MAGAZINES.

The Journal of Mental Science.—The number for April contains the Morison lectures, by Dr. A. R. Urquhart of Perth. The subject of these lectures this year was Insanity, with Special Reference to Heredity and Prognosis. The first lecture is entitled "Prolegomena," the second "Statistics," and the third "Somatic Correlations and Résumé." The next original article is by Dr. W. W. Ireland on the Psychology of the Crusades. In this paper he gives examples of the great credulity of the people in the Dark Ages. This article is followed by an interesting and instructive paper by Dr. J. F. Sutherland, Deputy Commissioner in Lunacy for Scotland. The subject is Recidivism Regarded from Environmental and Psycho-pathological Standpoints. He introduces his subject by saying that "Recidivism is the French-coined term most appropriate to express the persistent, reiterated lapses of the same individual in that small section of habituals found in every country, both among criminals engaged in serious crimes against person and property and among petty offenders, whose delinquencies or misdemeanours are drunkenness, public disorder, prostitution, and vagrancy." Dr. G. F. Barham of Claybury Asylum writes a short paper on Notes on the Management and Treatment of the Epileptic Insane, with a Special Reference to the NaCl-free (or "Hypo-chlorisation") Diet. He refers to the difficulty of carrying out this treatment in a large asylum; on the other hand, he points out that something can be done in a modified form. For instance, he found that by the simple substitution of sodium bromide for table salt the results were distinctly encouraging both in diminishing the number and the severity of the seizures and in improving the general behaviour of the patients so treated.

The Journal of Clinical Research. No. 1, Vol. I.—We have received the first number of this journal which is the official organ of the Clinical Research Association, Limited. It is intended to issue the journal periodically at intervals of about three months. Among the contents of this number is an article by Dr. Nathan Raw upon Human and Bovine Tuberculosis, with Reference to Treatment by Special Kinds of Tuberculin. Other articles deal with the methods of collection and preservation of morbid growths and tissues for season is at its height and within a small portion of the vast area of London are gathered men and women from every quarter, not of England alone but of the world, bent upon the enjoyment of the luxuries and the amusements that a great and wealthy city can supply. We doubt if the bad times to which we have referred with regret have greatly diminished the gaieties of the London season, and we would urge upon those who are filling with pleasant occupations every hour that they can spare from necessary rest not to forget their poorer brethren to whom no season brings recreation or leisure, and who, when they are overcome by accident or disease, must turn to the hospital as to the only friend who can save them from suffering and from death. We would press our appeal upon those who in the pursuit of pleasure visit our metropolis from foreign countries, asking them to remember how many of their humbler countrymen have made of London their temporary home in order to seek a livelihood in our teeming metropolis. Our hospitals close their doors to none on account of race or of religion; they seek no aid from the State or from the municipality, but from the charity of private individuals only; and we now ask those to whom such a system is new to consider what is meant by charitable institutions supported by the voluntary contributions of the benevolent, and to aid in a good work which cannot fail to win their admiration.

We are compelled to express the hope that those connected with London's commercial enterprises will make a special effort lest their annual contribution to the Metropolitan Hospital Sunday Fund falls below its usual level on account of circumstances to which we cannot shut our eyes—the fall in securities, and general feeling of unrest in the world of labour. We must also dwell briefly upon the loss which death has inflicted upon the hospitals and upon the Fund in the removal of their staunch and generous friend, Mr. GEORGE HERRING. No one has stepped forward to repeat his challenge of past years, under the terms of which he paid to the Fund a sum equal to one-fourth of that collected in the places of worship of the metropolis. Perhaps emulation of his princely generosity was not to be anticipated, but we must point out how much the hospitals will suffer by his death, in spite of the generous provisions of his will, unless an effort be made by those who survive him to increase their gifts. With many this should not be difficult, and there must be thousands of others having the means to give who in past years have afforded no support at all to the Fund, but who if urged by those having influence with them would, perhaps, give generously. We ask those who do not forget their own offering to use their influence to increase the gifts of others and to insure that they shall not remain ignorant of what "Hospital Sunday" implies. And with the suggestion that all should induce others to give in addition to contributing themselves we cannot but associate the name of one dear to ourselves. In the late Mr. WAKLEY, Senior Editor of this journal, as in Mr. HERRING, the Metropolitan Hospital Sunday Fund in the past 12 months has lost a true friend, and we point to the issue of our annual supplement year after year by him and under his supervision to show how fully he believed in the efficacy of persuasion exercised on behalf of charity and how practically he brought persuasion to bear where it might take effect.

Garden Suburbs and Garden Cities.

THE word "suburb," and still more the adjective "suburban," call up to the mind a picture of much that is commonplace, philistine, and even positively unlovely. Now suburbs, especially those of our provincial capitals, are often picturesque, and their inhabitants are in bulk as intellectual and as progressive as their fellows dwelling actually in the cities. But these facts are obscured by our recollections of the outskirts of many large towns with their long straggling lines of monotonous small houses, without form and without organic unity. We have often pointed out in THE LANCET that this mean and depressing environment is not essential to our town development, and have described with some detail the attempts now being made to show how the evils, practical as well as æsthetic, which characterise our suburbs no less than our large towns are due to the utter want of thought and system with which we allow our residential centres to develop. Given the opportunity of laying out some portion of the outskirts of a town upon a rationally conceived plan, many of the evils connected with housing would disappear of themselves. That there is no intrinsic difficulty in carrying this out is shown by the fact that this principle is already being acted upon at Hampstead where a few weeks ago "The Hampstead Garden Suburb" made its departure in town development, and where this week the foundation-stones of the first buildings were laid, as we report elsewhere. "The Hampstead Garden Suburb" is an estate of some 300 acres which has been bought by a company, the Hampstead Tenants' Society, and which is being held in trust for the community. Instead of allowing the speculative builder to erect upon the land as many small houses as municipal regulations will permit, employing an architectural style and a building standard that will allow of the maximum profit to the vendor of the houses, certain parts of the estate are ear-marked *ab initio* for gardens and open spaces, and these can never be built upon. In addition suitable sites for the schools, the bakery, washhouses, and shops have been decided upon before any building is begun. In this way symmetry can be secured as well as the requirements of hygiene. There will not be more than eight houses on the average to the acre of land held by the Hampstead Tenants' Society, so that the occupants will have adequate breathing space. By such systematic planning it is easy to preserve the natural features of special beauty of any building site, and treated in this way the environs of a large town may become not only health-giving but attractive to the eye and a source of pleasure and pride to the inhabitants who though not all of the same social class will be drawn together by a common and pleasant desire to live in a beautiful environment. For the aim of the garden suburb is to provide not for one class only but for many, so that while a large area may be devoted to workmen's cottages, other sites would commend themselves for the erection of larger houses. Most suburbs by providing for one class only add to the architectural uniformity a moral and intellectual monotony, and thus the segregation of classes which is so serious an evil of modern city life becomes still further accentuated.

On similar principles the Garden City at Letchworth is being developed and we make no excuse for returning to

THE LANCET.

LONDON: SATURDAY, JUNE 8, 1907.

The Metropolitan Hospital Sunday Fund.

TWELVE months have gone by since last we pressed the claims of the Metropolitan Hospital Sunday Fund upon the public to whom we address ourselves upon this annual occasion rather than to the narrower circle of our professional readers. Our supplement, published in last week's number of THE LANCET, has been issued and is doing its share, we venture to hope, in stimulating the generosity of subscribers and in producing a result worthy of the great cause for which we plead. To-day we can scarcely do more than reiterate with renewed earnestness that which we have said on other occasions, for it is not easy to find a fresh argument or a fresh ground of appeal where the features of the case presented by the advocate vary so little from those which have been dwelt upon already. Even the year that has passed since the Metropolitan Hospital Sunday Fund last held its collection, filled as it has been with events of political interest for the nation, and with incidents which may long be memorable to individuals as affecting their personal lives and fortunes, contains little to which we can refer in emphasising the need of the hospitals of London for loyal and ungrudging support. Their year's chronicle contains no events of sensational nterest to arrest the glance of the passer-by; they have no story of startling achievement or of unusual success to which they can appeal, in order to unloose the purse-strings. For them the past twelve months have brought, as ever, merely 52 weeks of earnest, anxious, useful work in the cause of charity; weeks in which health has been restored to the suffering poor, in which pain has been relieved, and in which death has been averted; but although the aid which medicine and surgery bring through the medium of the hospitals into the homes of the helpless may mean renewal of life to its actual recipients, the world at large has little opportunity of estimating that which has been achieved. It has also no means of judging what restored health may mean when it is that of the wage-earner, toiling to support a family, or of the mother tending that family. Any alleged shortcoming on the part of a hospital can readily be noted and extensively advertised. When it is publicly stated that a patient has not been able to obtain admission to an institution already filled to overflowing and unable through lack of money to increase its accommodation, then, indeed, we see and hear plenty of unfavourable comment, but the comment is usually based upon a wholly false impression of the facts and takes no account of the lack of funds or of other causes arising out of poverty that impose limits upon the beneficence of all charitable institutions. Censure is more readily listened to than praise, and it is far easier to make known the possibly causeless complaint of an individual than to blazon abroad the everyday tale of duty performed with monotonous efficiency If there be failures on the part of the hospitals of London to achieve perfection, such as there must be where human agencies are concerned, the promotion of sound organisation and economy is ever the care of the Metropolitan Hospital Sunday Fund, and the causes of failure could be for the most part removed by unloosing the public purse-strings.

If we are unable, however, to point to anything but a year of ordinary work on the part of the hospitals we do not for a moment suggest that the year has not been a period of progress on their part, and we feel that the sympathy of all should be with those who energetically do their daily duty of charity without vaunting their performances and with those who aid the gradual but sure advance of medical science without lending themselves to anything in the nature of dramatic display or of sensational advertisement. The greater number of those who live throughout the year in London and in the districts surrounding it, whether they be rich or poor, do so in order to earn their living, or to add to wealth already accumulated in London's countless trades and vast industries. It is with the captains of industry, mainly, that the power lies to maintain the income of the Metropolitan Hospital Sunday Fund at the high level which it has reached during past years, because into their hands flow during the year the proceeds of the mighty commerce of the greatest city of the world. At the same time we cannot ignore the fact that during the past 12 months a certain depression has been apparent, and that with many of those to whom we refer "times are bad," to use a popular phrase. With their anxieties we sympathise, but we would urge upon all, even though their financial circumstances may not be what they would wish them to be, and although the supply upon which they usually draw for the purposes of charity may be diminished, not to allow the hospitals to suffer thereby if any effort of self-denial can enable them to maintain their gifts to the Fund at their usual level. It is possible that some portion of their income may be usually divided between charity and pleasure. We would urge them in such a case to sacrifice their pleasures to some extent, rather than that charity should suffer loss; and in this we address ourselves not to those only whose revenues are large but to those whose yearly profits in their own estimations, or seen in the light of their ambitions, are but small. Let them think of those for whose sakes they are asked to give and remember that for them there can be no question of surplus when the week's wage is reckoned. Let them not forget those who in time of illness or injury would be helpless but for the aid given by the hospitals, those upon whose earnings from day to day their families depend for the supply of their daily needs. But although we may address ourselves first to that section of London's millions to whom London and London's suburbs represent home with all its associations or business with all its claims and emoluments, to the Londoners who should give for the benefit of their humbler fellow citizens, we do not forget the vast and wealthy crowd of those who flock to the metropolis in June in pursuit of pleasure before all other objects. The rose to about 70° in the south-east as well as in some districts in the north and north-west of England. The wind as it blew over the metropolitan area during this period was sometimes from the eastward, but in reality the air-current then prevailing came from a more southerly point of the compass and was only deflected into east as it arrived on this side of the Channel. These summer-like interludes were very enjoyable but they only served to render the subsequent relapse to abnormal cold the more disagreeable and the more perilous. The worst spell of cold occurred about Whitsuntide; during three days the thermometer in London and over the greater part of the country failed to rise above 51°, and on the fourth day only touched 52°. As the average temperature for the afternoon during that period of the month is about 62° it will be seen that the universal complaints against the weather at the holiday period were veritably justified. In Scotland and the north of England the weather was even more consistently cold, the occasional warmth in the south only reaching those districts in a modified degree or failing to affect them altogether. But certain parts of Scotland were capriciously hot; on the 26th, for instance, the shaded thermometer at Lairg in Sutherlandshire ascended to the high point of 79°. Owing to the few warm spells and to the absence of any abnormal frosts the mean temperature for the month was not as a rule much below the average, but the sunshine was almost everywhere gravely deficient, while the quantity of rainfall was generally in excess over some parts of the north and north-east of Great Britain, the aggregates being more than double the average amount.

The reason why we, as a nation, invariably introduce conversation with a stranger, and not infrequently with a friend, by remarks upon the weather is, of course, that in our so variable climate the weather is actually of prime importance to our lives. We have just had placed before us an interesting pamphlet[1] which may be regarded in a sense as a plea for more exact talking about the weather, and as such we bring it to the notice of our readers. About three years ago we gave some account of the scheme by which Mr. W. F. TYLER of Shanghai proposed to make exact comparisons of climates and this pamphlet further develops his scheme. He says that in a general sense the term climate indicates the idea of varying degrees of physical comfort or discomfort resulting from the local meteorological conditions. In mild climates, among which, despite our recent experiences, he includes the climate of the British Isles, the means of describing the combined effects of local conditions is generally limited to calling the climate either "bracing" or "relaxing," as the case may be. In tropical or semi-tropical climates, such as those encountered in China, a means of describing the varying degrees of discomfort is practically non-existent. The weather may be called "muggy," but the degree of mugginess can only be denoted by various inexplicit adverbial adjuncts. There are, however, very strong grounds for suspecting that temperature and humidity are the most important of the conditions that go to make up "mugginess." These can, of course be measured by ordinary physical methods with considerable precision, and Mr. TYLER has endeavoured to show how the varying bodily sensations associated with changes in the weather may be numerically expressed. For the purposes of this investigation it appeared necessary to invent a word indicating the sensation caused by a "muggy" climate and the term selected is "hyther" (a "portmanteau" word coined from hydrothermos). The "hyther" scale has for its limits the numbers 0 and 10. Limit 10 represents the very worst day an observer remembered to have experienced in China—hot, damp, and enervating; while limit 0 represents an ideal summer day—warm, of course, but bright and bracing, so that a person suitably clothed and not exerting himself unreasonably or unseasonably suffers no discomfort from the climatic conditions. On each day of the month of August, 1902, at Shanghai, 12 individuals at noon estimated the degree of "hyther." They were all persons of normal condition, regular habits, and equable temperament. Instrumented meteorological observations for the purpose of comparing with the estimated "hyther" were obtained from the neighbouring Zicawei observatory. When the estimated "hyther" numbers and also the readings of the wet-bulb thermometer were plotted on squared paper a remarkable correspondence between the respective graphic curves was apparent, and Mr. Tyler found that the relation between the "hyther" numbers (h) and the wet-bulb readings (w) was approximately represented by the equation—

$$h = \frac{w - 66}{3}.$$

Mr. TYLER reinforced his observations on the production of a sensation scale, founded on the estimations of the temperature of water by persons who dipped their hands successively into water at 43° F., at 120° F., and at the temperature to be estimated, but for his interesting observations in this direction we refer our readers to his record of his work. We have referred to it in connexion with a brief consideration of the disagreeable May which we have just experienced because it suggests to us that the scientific study of weather is not sufficiently pursued among us. We are most of us content in our frequent allusions to the subject to employ any inaccurate terms which come into our mouths, because meteorology is not really studied by a sufficiently large number of persons to make the carelessness of our phraseology noticeable.

Annotations.

"Ne quid nimis."

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

AT a meeting of medical men, biologists, and others interested in tropical diseases, which was held in London on May 10th, the Society of Tropical Medicine and Hygiene was duly constituted. Laws for the government and administration of the society were at the same time considered and passed and the first council was elected. The formation of a society to promote the study of the diseases of warm climates and to facilitate intercourse and discussion among discussion of the Letchworth experiment. It is one of great importance to the medical profession and its developments should be watched by our readers. The proceedings here are, of course, on a much larger scale than at Hampstead, for at Letchworth the estate purchased by the company was nearly 4000 acres and already in three years the population has increased from 300 to about 3000; there are some 400 houses upon the land and nine factories. At the outset about one-third of the whole area was set apart for building purposes, the remainder being designed to consist of gardens and open spaces within the city which will be surrounded by an agricultural belt like the rampart of a mediæval town. This agricultural belt will doubtless in the course of time be let for small holdings, the owners of which having thus a market at their very doors may be expected to find dairy farming a profitable undertaking. The essential point, however, is that the agricultural belt cannot be built upon, so that the ultimate size of the city is limited. That there is nothing chimerical in the idea is shown by the fact that this principle has been acted upon by such practical people as the Australians who have surrounded Adelaide with park lands in such a way that the town can only increase by making a sort of "knight's move" over these park lands. A similar method of treating the ring of land encircling a great city has been attempted in many American cities and in some instances the endeavour has met with great success. Both the Hampstead Tenants' Society and the managers of the Letchworth Garden City are paying special attention to the construction of workmen's dwellings, and it is hoped that the principle of a common kitchen and service for chambers may be introduced, if not actually among the cottages of workmen at least for that large class which can hardly afford to keep a servant and is yet incapable single-handed either of cooking satisfactorily or of providing for its household needs wisely. A plan with much to recommend it consists in building small houses round three sides of a quadrangle, the centre being occupied by a common kitchen and dining hall which might serve from 12 to 24 families. By paying a small sum towards the common kitchen a woman would not only be spared the trouble and worry of cooking the family dinner, but would be saved from the unnecessary expense which must always result where unskilled people engage in activities for which they are unfitted. We have recently called attention to the deplorable ignorance of the English women of the lower classes of the principles of domestic economy as applied to cooking, and division of labour is as applicable to domestic economy as to other things. The health of such colonies as those which we are considering must improve if one efficient cook is substituted for four bad ones.

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[1] The Psycho-Physical Aspect of Climate with a Theory concerning Intensities of Sensation, by W. F. Tyler, F.R. Met. Soc., Assoc. Inst. C.E. Reprinted by permission from the Journal of Tropical Medicine and Hygiene, April 15th, 1907. London: John Bale, Sons, and Danielsson, Limited. Pp. 45 and four folding plates. Price 5s.

All the schemes for garden cities and garden suburbs should interest the medical profession, for who realises more clearly than the medical man, whatever may be his sphere of practice, how much disease, poor health, and ineffective life are due to the bad housing conditions which prevail in our large towns? No one can be more alive than the medical practitioner to the far-reaching opportunities which here present themselves for making a fresh start in our urban life and so removing the various conditions which foster the growth and hasten the development of disease. More air and sunshine, larger open spaces, fewer houses to the acre, and greater amenities of city life, must surely all make for an improved level of health. Consequently, it is to be hoped that wherever kindred movements are on foot medical men will give them their heartiest support. One immediate way of assisting this very practical method of reform would be to join the Garden City Association (Central Office, 601, High Holborn, London, W.C.) which has sister associations in France, Germany, Belgium, and America, and with its branches at Liverpool, Manchester, Newcastle, and Glasgow advocates these principles throughout the length and breadth of the land and aids effectively in their actual carrying out. From this parent association have issued the two practical undertakings already mentioned and there are others in prospect. The Garden City at Letchworth by starting *de novo* with a well-thought-out plan shows how a modern town, instead of meriting Ruskin's description of it as a "congeries of bad building and ill living," may be an organic *whole, neither defying* the laws of æsthetics nor sinning against the rules of hygiene. The Hampstead Garden Surburb should indicate the lines on which existing towns can extend and develop in a sane and rational manner for the benefit of all.

An Inclement May: the Psycho-physical Aspect of Climate.

It is a well-established fact, proved as well by common and shuddering observations as by the statistics of meteorologists, that these islands are more liable to suffer from east and north-east winds during the spring than at any other time of the year. May is more frequently the selected time than April, while in March, despite popular notions, the cold current is likely to be from the north or north-west rather than from the north-east and east. No one will deny that the May which has just finished its course was a disappointing as well as a very trying month, and an examination of the daily charts of weather published by the Meteorological Office makes it clear that the inclement condition was due to the wretched persistency with which the atmospheric pressure remained greatest over the Icelandic and Scandinavian region and lowest over the Spanish Peninsula, France, and Germany. This distribution of pressure is exactly the reverse to that obtaining over these parts of the earth's surface during the greater portion of the year and, of course, compels the air to flow from the Arctic north-east of Europe across the British Isles. There were certainly occasions during the month when a temporary displacement of the northern anticyclone and the near proximity of cyclonic systems to our west and south-west coasts brought about winds from milder quarters, enabling the thermometer to rise to the normal and for a brief period far above it, but these leniencies were few. At the commencement of the month the wind was westerly to south-westerly, and from the 7th to the 12th there was a southerly current that brought up very warm air from the Mediterranean region and raised the shade temperature to 79° F. in London and to 80°, even a little above it, in several parts of the home counties and in the north-east of England. There was also another short interval of warmth from the 23rd to the 25th, when the thermometer be torn to shreds and converted into flock by the machine appropriately known as "the devil." The resulting mass, of course, should be thoroughly washed and scoured but that process obviously makes it more costly and so sanitary procedure is ignored and all sorts of abominations are mercilessly stuffed into the mattress. By the courtesy of Messrs. Maple and Co. we had the opportunity of inspecting their bedding factories and of watching the processes or series of processes which bed-stuffing of varying qualities goes through before it is considered fit for the purpose of stuffing mattresses. The raw material comprises hair, feathers, torn up carpets, rags, and so forth, all of which are carefully submitted not only to a cleaning process but also to a dust-extracting process also. During the teasing out of this material the operation is conducted within the field of an exhaust fan or cyclone, so that all irritating and easily scattered dust is effectually removed. Is it unreasonable to demand that all raw material destined ultimately to be used for filling bedding should be treated on the scrupulous sanitary lines indicated? We not only think not but maintain that some form of Government machinery should enforce such treatment.

THE SULPHUR FIEND.

THE smoke nuisance is not only a menace to health but threatens also to destroy our buildings. Even if scientific skill and energy, bearing in mind also economic considerations, are able to suppress the visibility or opacity of smoke, a quality which shuts out health-giving light rays, it still remains to eliminate the products of combustion of the sulphur which is contained in more or less quantity in all ordinary coal. It is bad enough to have the daylight screened from us by a pall of dense smoke and vapour, but it is probably worse when that atmosphere is charged, as it invariably is, with sulphurous and sulphuric acids, both irritating to a degree and destructive to many of London's interesting buildings. We are inclined to the view that after all the sulphurous outpourings of London's chimneys are more responsible for the ill-effects of fog than is any other factor. It must be remembered that during a fog there is practically no movement of the air of that kind which is calculated to attenuate or to remove these outpourings, and it has been estimated that quite, if not more than, half a million tons of sulphuric acid are emitted annually in London from the coal burnt in our fireplaces. The air is thus regularly reinforced with a corrosive chemical ready to do mischief to our throats and lungs and alike to the structure of our buildings. Limestone is converted into gypsum or sulphate of lime, a substance which is more voluminous than the native material and which readily powders and detaches itself, playing havoc with delicate mouldings and tracery. St. Paul's Cathedral and the Houses of Parliament are victims of the sulphur fiend. The rain descends and by the time when it reaches the buildings it has become a weak but nevertheless destructive solution of sulphuric acid. The surfaces are thus exposed year in and year out to a more or less continuous stream of acid washings. This is no case for palliative measures or a remedy but one calling absolutely for prevention. It is, however, of interest to mention one idea in regard to a remedy which so far has met with most pleasing success when applied to surfaces which have already been attacked. A solution of baryta appears to have the property of re-cementing together the particles of the decayed stonework and it is assumed that it acts by forming with the gypsum insoluble sulphate of barium, at the same time liberating lime which sooner or later becomes converted into carbonate, the substance of the original limestone, by absorbing the carbonic acid gas of the air. Professor A. H. Church gives an example of the success of this treatment in the case of the Chapter House at Westminster. "Before treatment a touch of the finger sufficed to bring away the surface of the carving; afterwards the stone was as sound as that newly quarried and harder." This sounds satisfactory enough but obviously it would be still more satisfactory if the destructive agent was never allowed to exercise its corrosive property, or, in fact, to have any existence at all. There can be no objection to washing the surfaces of buildings with baryta water but that does not solve the question of the injurious action of sulphuric acid on the health of man and of plants. We may cover our buildings, as has been suggested, with a veneer of impermeable or protective wax and thus preserve them from the inroads of sulphuric acid in the air but we still leave our respiratory tract open to the irritating action of "the London particular." We cannot wax our throats, our eyes, or our noses.

THE ADMINISTRATION OF ETHER BY THE DROP METHOD.

IN the *Maryland Medical Journal* for May Dr. S. G. Davis strongly advocates the administration of ether by the drop method which is adopted in St. Mary's Hospital, Rochester, and in several other American hospitals. It certainly possesses the great merit of simplicity. Dr. Davis places a piece of rubber protective over the patient's eyes to shield them from the vapour of the ether. Since he began to do this he has not had a single case of conjunctivitis due to ether. The face is protected with a moist towel or gauze which extends over the rubber tissue and around the chin. The inhaler consists of a wire frame like that of Esmarch's chloroform inhaler but larger, in order to give more space for mixture of air and ether. The air space under the frame should contain about 25 cubic inches—i.e., be about thrice that of Esmarch's chloroform inhaler. The frame is curved so as to fit the face closely. It may be covered with one or two layers of stockinette or with several layers of gauze. The best covering is about six layers of ordinary gauze which can be quickly applied and thrown away when done with. The frame should be boiled after use. The inhaler is applied over the face and the ether is administered drop by drop, very slowly at first, then gradually more rapidly as the patient is able to take stronger vapour. Finally, at about the time when he will not respond to questions, a moist towel or some gauze is wrapped snugly round the mask, leaving a small area in the centre for the free passage of air through the gauze. Thus the air is prevented from passing under the edges of the inhaler and is made to pass through the ether-laden gauze. The ether should not be dropped on more quickly than the patient can comfortably breathe it. Dr. Davis lays great stress on slow administration and advises the anæsthetist never to be in a hurry to produce unconsciousness and not to let the operator hurry or worry him. The patient, it is stated, will become unconscious in two or three minutes and will be ready for operation in about ten minutes. After complete anæsthesia is induced very little ether, dropped slowly but continuously, will suffice to maintain the proper degree of narcosis. The further duties of the anæsthetist consist in watching the respiration, pulse, pupils, and general condition, and in not allowing respiratory paralysis to be induced. The respiration should be quiet, with perhaps a slight snore. Panting and rapid, irregular, or stertorous breathing indicate that the patient needs more air. The pulse should be regular, full, and bounding. The pupils should be of normal size and quickly respond to light. Since adopting this method Dr. Davis has abandoned the chloroform-ether sequence, as he found that it presented no advantage over the simple administration of ether. Another advantage of the drop method which is those who pay special attention to this branch of medicine has long been desirable, but its inception on a sufficiently broad basis has only recently been found to be practicable. That end has, however, now been attained, the success of the movement having in a great measure been due to the approval and coöperation which it has received from the Schools of Tropical Medicine in London and Liverpool, from the Universities and other teaching bodies, from the Naval and Military Medical Services, and from the large and rapidly increasing number of physicians who are engaged in mission work and in the practice of medicine and hygiene in tropical countries. An interesting and important feature in connexion with the society is the active support which has been accorded to it by many eminent biologists, the value of whose assistance in their own field of research—by no means the least important department of tropical medicine—will not readily be overestimated. The acceptance of seats on the first council, by representatives of these various services, institutions, and interests, furnishes an effective guarantee as to the extent of the sphere of activity and as to the energetic and capable administration of the society. All registered medical men and others who are interested in the sciences related to tropical medicine are eligible for election as Fellows; and the council is empowered, for a period of six months, to elect without ballot, on application being made and on its being satisfied as to the eligibility of the candidates, a limited number of original Fellows. The annual subscription is one guinea, there being at present no entrance fee. The headquarters of the society have been established at 20, Hanover-square, London, W., where ordinary meetings will be held at 8 30 P.M. on the second Wednesday of every month except August and September. The first meeting of the society is fixed to take place on Wednesday, June 26th, at 8.30 P.M., when it is expected that the President, Sir Patrick Manson, will deliver an inaugural address, and objects of interest in tropical medicine will be exhibited. The first council of the society is as follows:—President: Sir Patrick Manson. Vice-President: Professor Ronald Ross. Treasurer: Dr. W. Hartigan, 4, Bond-court, Walbrook, E C. Secretaries: Dr. F. M. Sandwith, 31, Cavendish-square, W., and Dr. W. Carnegie Brown, 32, Harley-street, W. Councillors: Mr. Ernest E. Austen, Fleet Surgeon P. W. Bassett-Smith, R.N., Mr. James Cantlie, Dr. C. W. Daniels, Lieutenant-Colonel G. M. J. Giles, I.M.S., Mr. W. M. Haffkine, Dr. C. F. Harford, Dr. T. S. Kerr, Dr. G C. Low, Professor E. A. Minchin, Lieutenant-Colonel C. H. Melville, R.A.M.C., Professor G. H. F. Nuttall, Dr. L. W. Sambon, Mr. Arthur E. Shipley, Dr. J. W. W. Stephens, and Mr. Fred. V. Theobald.

THE PUBLIC ATTITUDE TOWARDS CONSUMPTIVES.

UNDER the heading of "Panic and Prejudice" Mr. W. K. McClure, writing in the *Westminster Gazette* has drawn attention to the growing tendency among a considerable section of the public to treat the sufferer from pulmonary tuberculosis almost as an outcast, or, at any rate, as one to be shunned from fear of infection. He very cogently and rightly points out that a wider recognition of the simple fact that infection is chiefly conveyed by careless expectoration would "do far more to prevent the spread of consumption than the callous ignorance which brands all consumptives as outcasts." The knowledge of the communicability of consumption from person to person so long disputed, but now so universally recognised, has resulted in a widespread misconception as to the mode of infection, in virtue of which no little hardship is inflicted upon the unfortunate sufferers from that disease. An instance of this is brought forward by Mr. McClure. He points out that the fear of infection has so taken hold of many people's minds that the warm health resorts of Southern Europe and Northern Africa are practically barred to those suffering from pulmonary tuberculosis. Mentone led the way in excluding them; some years ago the proprietors of first-class hotels agreed among themselves to refuse to receive guests known to be suffering from consumption on the supposition that their presence hindered the development of Mentone as a pleasure resort. Since then a similar action has almost been forced upon the hotel proprietors in other parts of the Riviera, so that practically consumptives can only visit these places when they conceal the nature of their illness. Mr. McClure states that inquiries were made in the autumn of 1905 and again last autumn at the principal hotels at every resort from Hyères to Rapallo as to whether consumptives were received, the reply in almost every instance being an uncompromising negative. One of the answers was a striking testimony to the reason underlying these refusals, for the hotel proprietor replied that many of the visitors to his hotel made it a condition that no one suffering from disease of the lungs should be taken as a guest. As Mr. McClure points out, "the pleasure seekers have made up their minds that consumptives must either remain in sanatoria in their own country, or if they come abroad go straight to the Davos valley and stay there." This attitude towards the unfortunate sufferer which Mr. McClure so rightly and so strongly deprecates is one with which the medical practitioner is very familiar. He is frequently asked whether it is not dangerous to retain the services of a tuberculous person, or, if he be attached to a hospital, often hears that the consumptive has been discharged from his employment owing to the fear of infection. Instances could easily be multiplied showing the growing tendency to treat the consumptive like the leper or to regard him as a pariah to be avoided in every way possible. Mr. McClure's thoughtful article deserves to be read widely. It cannot be too generally known that practically the only means of conveying the infection from one person to another is from the drying of sputum and its dissemination as dust containing tubercle bacilli, if we except intimate personal contact, such as kissing or occupying the same bed. Further, that given the most simple precautions in regard to the disposal of his sputum by the consumptive, the danger of infection is almost non-existent. The public have obviously a right to expect that such precautions shall be rigidly carried out, and in return it is their duty to treat the sufferer with the consideration and the sympathy which he deserves and not to increase his sufferings further by branding him as dangerous and to be avoided.

"LOATHSOME BED STUFFING."

OUR attitude on the above subject, as explained in several articles in recent numbers of THE LANCET, continues to attract the attention of the trade and it is gratifying to us to find so many representatives of the bed-furnishing industry giving hearty support to our views. We have consistently urged that the evil can be suppressed by a simple system of inspection of the factories where bed stuffing is made and handled. We are convinced that no respectable firm would resent this plan should it become part of a Government scheme for preventing this scandal. On the contrary, the great furnishing houses, we feel sure, would welcome such an innovation and the plan of control could be conducted without needlessly submitting their business to inconvenience. This, at any rate, is the opinion of one great furnishing house—namely, Messrs. Maple and Co. We understand from the representations made to us by this firm that the root of the mischief is simply and solely the disgusting policy of raking up the cheapest possible raw material. Any offensive rags, left off clothes, and so on, can

Linnæus is of course best remembered as a botanist and zoologist, the originator of the nomenclature named after him, but he was also much more. In the first place, he was eminent as a biologist: "he found biology a chaos, he left it a cosmos." Then, too, he was a traveller interested in folk-lore, and wrote an admirable book about the Lapps, among whom he journeyed for thousands of miles. Nor did he cut a mean figure as a practising physician. Indeed, his earlier associations are chiefly medical, and Stobæus, an eminent physician, was one of his kindliest patrons. There is much in the early struggles of Linnæus, his vivid character, his brilliant powers of observation, his passionate pursuit of science, and his enormous originality that reminds us of John Hunter. Both men were destined to conventional pursuits and were threatened with apprenticeship to mechanics. Indeed, Hunter was for a time a cabinet-maker. Both men early escaped by sheer force of genius from the influence of their environment, achieved an infinity of original work, and at length became shining stars in the firmament of time.

MR. BALFOUR AND POST-GRADUATE STUDY.

THE meeting of the Federal Conference on Education, which was held on May 31st, was occupied with a discussion upon universities and was remarkable in many ways. The views which were expressed as to the real function of a university, of the importance of post-graduate study, and of the necessity for interchange and reciprocity among universities were not new, for in point of fact they were a recurrence to mediævalism. But they were revivals. Chief among the many excellent speeches was, perhaps, that delivered by Mr. Balfour, which dealt mainly with the importance of post-graduate study. After a protest against the tyranny of examinations, he continued :—

> "But, at all events, let us rejoice in common that there is one branch of university work, of growing interest and importance, daily receiving more recognition from all that is best in the intellectual life of the country—I mean the post-graduate course. There the slavery of examinations is a thing of the past, the intellectual servitude in which the pupil has hitherto been is a thing he may put on one side; and he is in the happy position of being able to interrogate nature and to study history with the view of carrying out his own line of investigation and research, instead of being in a perpetual subservience to the idea whether such and such a subject is worth getting up for examination purposes, whether he may not have omitted to read with sufficient attention something which to him is perfectly useless, perfectly barren, perfectly uninteresting, but on which some question may be asked by a too curious examiner."

And further, he added that it was in connexion with the post-graduate course that there could be a communication between ourselves at home and the more distant parts of the Empire. "If," he said,

> "we can so arrange the post-graduate course of our universities that it will be thought a normal and natural thing for any man who has the talent and the time to devote his life to investigation, first, to get his education at one of the universities of his own country, and then to go and conclude that education in a post-graduate course in one of our colonies, how great will be the advantage, not merely to the student, but to the communities which will be brought together by a tie which may unite us all in a common interest in these higher subjects."

This is a noble ideal—one, moreover, which there should be no great difficulty in making a reality. In the Middle Ages the universities of Europe were free to all duly authorised scholars, and in many instances the teachers of one university were free to teach in any other university. In those days the curse of Babel was removed by the universal knowledge of Latin as a language common to learning. If this is so no longer, there exists for British students a number of universities in far distant lands where their own tongue is spoken, and in addition to the countries under the British Empire there is that great country allied to ourselves—namely, the United States of America. From our own particular point of view how much benefit would arise to humanity in general from the labours of a band of earnest students who could study the diseases of tropical climates in the universities of those lands where such diseases are prevalent. Much has already been done in this matter, but much also remains to be done. It is of good omen that the conference unanimously carried the following motion :—

> That it is desirable that a committee representing universities should be formed which should investigate the question whether it is possible to facilitate the exchange of information as to their courses and standards between the universities of the empire, and to take action accordingly.

We hope that this is but a prelude to an interchange of students and teachers among the universities of the empire.

PEPTIC ULCER FOLLOWING GASTRO-ENTEROSTOMY.

IN the *Cleveland Medical Journal* for May Dr. C. A. Hamann has reported a case of peptic ulcer of the jejunum following gastro-enterostomy, a lesion which has only recently attracted attention. A man, aged 48 years, suffered for some time from symptoms of gastric ulcer—pain, tenderness, emaciation, hæmatemesis, and hyperchlorhydria. Anterior gastro-enterostomy and entero-enterostomy were performed. The Murphy button was used in both anastomoses. Recovery from the operation was uninterrupted and the smaller button was passed, but on the twenty-second day epigastric pain began. An indistinct tender mass was felt in the epigastric and left hypochondriac regions. The patient was allowed to go home as his condition was not regarded as serious. He died rather suddenly 26 days after operation. The necropsy showed on the anterior wall of the jejunum just beyond its junction with the stomach a perforated ulcer about an inch in diameter with a sharply marked border. The button was *in situ* but the perfect nature of the union and the position of the ulcer showed that the button could not have caused the ulcer by pressure. The ulcer was exactly in the position where the highly acid gastric juice would come into contact with the intestinal mucosa. The gastric mucosa showed erosions but no round ulcer. There was also general peritonitis. The operation of gastro-enterostomy was introduced in 1882 but not until 1899, 17 years later, was the first case of peptic ulcer following it reported by Braun. In an extensive review of the subject Gosset collected 31 cases, mostly German.[1] Of these 29 occurred in males—a preponderance in striking contrast to the greater frequency of gastric ulcer in females. The ulcer occurred most often after anterior gastro-enterostomy (15 cases out of 27). It occurred once after Roux's operation, four times after anterior gastro-enterostomy with entero-anastomosis, six times after posterior gastro-enterostomy, and once after this operation with entero-anastomosis. But it must be remembered that the anterior operation has been performed more often than the posterior, at any rate in Germany, where most of the cases have been recorded. Mr. A. W. Mayo Robson has pointed out that many cases must have been unrecognised because perforation did not occur and that in many others death must have resulted from abscess formation or in other ways, the adhesions and other complications obscuring the parts, so that at the necropsy the true nature of the affection was not ascertained. The time after operation at which symptoms of ulceration appeared varied from seven hours to ten years. Ten of the cases were fatal, 19 terminated in recovery, and in the remaining two the result is not stated. In all the operation was performed for benign disease. Of 14 cases in which the method of operation is stated suturing was performed in nine, the Murphy button was used in four, and a bone bobbin in one. In 17 out of 21 cases there was hyperchlorhydria. In consequence of the apparent relation between hyperchlorhydria and post-operative ulcer the administration of sodium bicarbonate after operation has been recommended. Most, if not all, the ulcers have occurred in the jejunum. The duodenum seems claimed is that vomiting is much diminished by its use. This method has been extensively employed in Europe but has few advocates in Great Britain. Dumont's ether mask is practically identical with that described by Dr. Davis and has been employed in Berne and elsewhere in Switzerland. The plan is wasteful both in the matter of time and material and does not appear to offer any advantages over the nitrous-oxide-ether method introduced by Clover. It is, perhaps, easier for the advice to be given that the anæsthetist should not allow himself to be "hurried" or "worried" by the operator than it is for it to be taken. In busy hospital practice the loss of ten minutes for every period of induction means a serious leakage of time when six or eight operations have to be performed in an afternoon.

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[1] Revue de Chirurgie, January and February, 1906.

WELL DESERVED HONOURS.

THE University of Oxford at a Convocation held on May 28th conferred the honorary degree of M.D. upon Mr. Wilfred Thomason Grenfell, L.R.C.P. Lond., M.R.C.S. Eng. The honour was given in recognition of the good work carried out among the fisherfolk of Labrador under Dr. Grenfell's supervision. Dr. Grenfell, who was educated at Queen's College, Oxford, and at the London Hospital, qualified in 1888 and joined the Royal National Mission to Deep Sea Fishermen in 1889. At first he worked on board the mission vessels in the North Sea but in 1892 he initiated work of a similar kind among the fishermen in Labrador where, having obtained his certificate as a master mariner, he commanded his own vessel. In Labrador and Newfoundland he has helped in establishing four hospitals, besides various coöperative stores and other institutions for the good of the inhabitants. Sundry most interesting articles from his pen have recently appeared in the columns of our contemporary the *Standard*, which give a vivid account of the hardships of a medical missionary, as well as of the benefits which his skill and knowledge can confer. We congratulate Dr. Grenfell upon the compliment paid to him by his University—a compliment which is all the more noteworthy inasmuch as it is the first occasion upon which the honorary degree of Doctor of Medicine has been conferred. On May 31st Dr. Grenfell was the recipient of another honour, for he was invested by His Majesty the King with the insignia of a Companion of the Most Distinguished Order of St. Michael and St. George.

WIDAL'S REACTION IN JAUNDICE.

SOON after the discovery of the Widal reaction in typhoid fever it was noticed that the serum of certain persons not suffering from the disease agglutinated typhoid bacilli. This was observed particularly in jaundice. But in most cases a reaction was obtained only in low dilutions and after long periods (from two to eight hours). Judged by the usual standards of the present time such reactions would not be regarded as positive and as any evidence in favour of the diagnosis of typhoid fever. But there remains a small group of cases of jaundice in which the serum possesses high agglutinative properties. In the *Boston Medical and Surgical Journal* of April 25th Dr. H. A. Christian has contributed an important paper on the subject. He reports the following case. A man, aged 42 years, was admitted into hospital on Nov. 6th, 1906. Five weeks before he was awakened from sleep by severe pain in the right hypochondrium. Frequent attacks of pain followed and jaundice, with clay-coloured stools and dark urine, developed. On admission there were deep jaundice and marked tenderness and slight rigidity and spasm in the region of the gall-bladder. The patient had suffered from typhoid fever seven years previously. The blood serum agglutinated the typhoid bacillus in a dilution of 1 in 50 in 20 minutes. On the 10th choledochotomy was performed and a stone was removed from the common duct. The patient did well for a time but gradually failed and died on Dec. 9th. The stone was two centimetres in diameter, slightly irregular, semi-translucent, and crystalline. Cultures made from the almost colourless fluid in the gall-bladder and from the centre of the stone showed the typhoid bacillus. At the necropsy no typhoid lesions were found in the intestine. The gall-bladder was contracted and thickened. The bile-ducts seemed normal and contained no calculi. A positive agglutinative reaction in jaundice may be explained as due to the action of biliary substances dissolved in the serum. But there is much evidence against this view. The reaction cannot be obtained in many cases in which the jaundice is deeper than in those in which the reaction is present. Normal serum to which bile has been added does not give the reaction. Analysis of the reported cases of jaundice with an agglutinative reaction as high as a dilution of 1 in 50 in 30 minutes shows that they be divided into several classes: (1) those with a history of an attack of typhoid fever; (2) those in which typhoid bacilli are found in the biliary tract; (3) those in which there is acute infectious jaundice; and (4) those not belonging to any of the preceding classes. The fact that the agglutination reaction persists for some time after typhoid fever explains the first class. When the fever much antedates the jaundice the inference is that the bacillus persists in the system. The case recorded above is an example. A case has been recorded by Droba in which the bacillus was isolated from the gall-bladder 17 years after an attack of typhoid fever. With regard to the second class, several cases of cholelithiasis have been reported with no history of typhoid fever in which the typhoid bacillus has been found in the biliary tract. The third class includes the condition known as "Weil's disease" and others which may be examples of atypical typhoid fever. With regard to the fourth class, it has been shown that even in the absence of a history of typhoid fever a person may harbour the typhoid bacillus. The reason for the frequent association of jaundice with the agglutinating reaction is the fact that the gall-bladder is a site of election of the typhoid bacillus which often persists there long after an attack of typhoid fever, possibly producing cholecystitis and cholelithiasis.

THE BICENTENARY OF LINNÆUS.

THE bicentenary of Linnæus, celebrated by the Royal University of Upsala on May 23rd (May 13th, O.S.), has been the occasion of some graceful tributes to the memory of the great Swedish naturalist. Notable among these are the addresses forwarded to Upsala by the trustees of the British Museum and the director of the British Museum of Natural History. Professor Edwin Ray Lankester makes a happy allusion in the opening sentences of his address to the visit of Linnæus to this country in 1736. "There is preserved in the British Museum a letter from the celebrated Boerhaave introducing to our founder, Sir Hans Sloane, a young Swedish friend. 'Linnæus,' the letter runs, 'Linnæus qui has tibi dabit literas est unice dignus a te videri; qui vos videbit simul, videbit hominum par, cui simile vix dabit orbis.'" Despite this excessive compliment, or because of it, Sloane is said to have given the young man of genius a cold reception, little divining what a valuable connexion would in future exist between the learned of England and of Sweden. "Upon the material foundation of Sloane," to quote the address further, "have arisen the vast collections of the British Museum; from the genius of Linnæus have branched out the sciences of descriptive botany and zoology, enabling us to reduce to order these ever-growing collections. And throughout this growth there have ever been conspicuous the cordial intercourse and mutual aid between the naturalists of our two countries, initiated when Linnæus visited this 'punctum saliens in vitello orbis.'"

it in the same number of THE LANCET by our Paris correspondent. Dr. Bouchard of Limoges reports four cases of irido-keratitis in women with irregular menstruation which cleared up only when the menstrual functions became normal. We have recently referred to the same matter in our review of Berger and Loewy's Diseases of the Eye of Sexual Origin in Women.[3] The association of irido-cyclitis with pyorrhœa alveolaris must be regarded as beyond dispute and is explained with greatest probability on the theory of the elimination of toxins with the intraocular lymph by the ciliary processes. If this be true it is likely that toxins of other origin are similarly excreted and in the absence of oral sepsis and disorders of the generative system the most probable site is the gastro-intestinal tract. We are not aware that any observations upon the opsonic reactions of patients with irido-cyclitis have yet been carried out. It is not unlikely that a subnormal index for bacterium coli might be found in some of these cases.

EPIDEMIC CEREBRO-SPINAL FEVER.

STATISTICS recently published by the medical officer of health of Glasgow show that in that city up to March 31st there had been a total of 312 cases of epidemic cerebro-spinal fever treated in hospital to a termination, and that among them there had been 230 deaths, giving a death-rate of 73·7 per cent. Of the total number of cases, 175 were verified bacterially, and the deaths numbered 145, a rate of 82·9 per cent.; 137 were not bacterially verified, but on clinical grounds were regarded as cerebro-spinal fever, and of these 85 died, giving a rate of 62·0 per cent. The outbreak consisted mostly of single cases in separate households distributed over a wide area. It occurred chiefly in children who were related to each other with regard to the date of sickening but had, as a rule, no common centre of infection which was discoverable. Discussing possibilities of infection he suggests that the prevalent habit of kissing children may be one method by which the organism is transferred to them from "carrier" cases. In Scotland during the week ended June 1st there were 17 deaths from this cause registered in Glasgow, two in Leith, and one in Edinburgh. In Glasgow the weekly report issued on May 31st showed that there were at that time 110 cases under treatment. In the quarterly summary of the births and deaths in the principal urban districts in Ireland special tables dealing with this subject have been inserted. During the 13 weeks ended Saturday, March 30th, there were 13 deaths from this cause recorded in the Dublin registration area. In Belfast during the same period 233 cases were notified and there were 154 deaths, 90 of males and 64 of females, deaths of persons admitted from without the county borough being excluded. The first of the 13 weeks of the quarter ended on Saturday, Jan. 5th; the progress of the epidemic in Belfast is marked by the number of deaths during each of these weeks, the successive numbers being two, one, one, two, 12, 14, 12, 12, 22, 22, 19, 14, and 21. The deaths at various ages were as follows: under one year, 12 males and seven females; one year and under five years, 33 males and 12 females; five years and under 20, 34 males and 37 females; 20 years and under 40, 14 males and four females; and 40 years and under 60, one male. Almost all the deceased belonged to the labouring, artisan, or lower middle classes; one was the infant child of a "medical doctor," one was a medical student, and one was a school teacher. As regards duration of the illness, 117 of the 154 patients died in less than seven days, the periods being as follows: under 24 hours, 35 cases; one day, 24 cases; two days, ten cases; three days, 19 cases; four days, eight cases; five days, 13 cases; and six days, eight cases. In Belfast during the week ended June 1st 14 deaths were registered.

EPSOM COLLEGE.

A COPY of the voting paper for the election of pensioners and foundation scholars in connexion with the Epsom College Foundation has reached us, and we notice with regret that the percentage of cases where the husband or father of the candidate has supported the institution in his better days is still very small. In but two instances out of the 16 applications for pensionerships has such support been given and in only seven out of the 33 applications for foundation scholarships; we note that four of these are recommended by the selection committee as being in its opinion the most urgent cases. Another point worthy of attention is the fact that candidates reside in various parts of the British Isles. At times the foundation is referred to as a "South of England charity" by those who are not familiar with the scope of its work, and the addresses of candidates on this voting paper are the best refutation of such a statement. There are several applicants in Scotland, Ireland, Yorkshire, and Lancashire—in fact, quite one-fourth of the candidates are from these four distant centres. It is unfortunate that whilst there are only seven vacancies for foundation scholarships there are no fewer than nine applicants who cannot again stand as candidates owing to age, but since the maintenance of these scholarships depends almost entirely upon the receipts from annual subscriptions and donations the profession is to blame that the number available is not greater. If every medical man were to contribute half a guinea annually the numbers of pensions and scholarships could be materially increased, if not actually doubled, and it is difficult to imagine that there are many who could not afford to send this sum every year, which works out at about 2½*d.* a week. The working classes set a good example in making provision for old age and for days of trouble; it is a pity that medical men show less forethought and too frequently leave widows and orphans to face the heart-breaking trials of poverty. When it is recollected that there are over 30,000 members of the profession and that the total amount received by the college in annual subscriptions from all sources is under £4000, it can hardly be said that generous support is given to the foundation attached to the college which provides for pensions of £30 a year to 50 medical men or their widows and educates, clothes, and maintains free of charge 50 scholars, the sons of medical men.

THE TUBERCULOSIS PROBLEM IN SOUTH AFRICA.

AN important conference was held at the beginning of May in Capetown between the mayors and the medical officers of municipalities in the Cape Peninsula to consider the steps to be taken for the prevention of pulmonary tuberculosis. One of the speakers stated that 20 years ago the life insurance companies, relying on the excellence of the climate, did not take much notice of the disease when considering a proposal for a policy, but that now, in consequence of the enormous spread of consumption during the last few years, it was reckoned, as in England, one of the chief factors against which they must guard themselves. There was abundant medical testimony as to the great spread of the disease throughout the white and the black populations, and the chief danger was ascribed to lack of hygienic precautions in dealing with the later cases of the disease, especially amongst the natives who are very much afraid of hospital treatment and herd in small rooms in such a way as to produce a great number of cases by direct infection. It was felt that the compulsory removal of advanced cases to special more resistant to the gastric juice, no doubt because it is accustomed to it. The morbid anatomy of these ulcers is the same as that of peptic ulcer of the stomach or duodenum; they are almost always single. The symptoms resemble those of the gastric ulcer. There may be none until perforation takes place; this occurred in eight of the 31 cases. In 20 of the remaining cases there were signs of adhesive peritonitis—the anterior abdominal wall was infiltrated and an indistinct mass was felt.

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[3] THE LANCET, April 27th, 1907, p. 1166.

THE COMPULSORY RETIREMENT OF POSTAL MEDICAL OFFICERS UNDER AN AGE LIMIT.

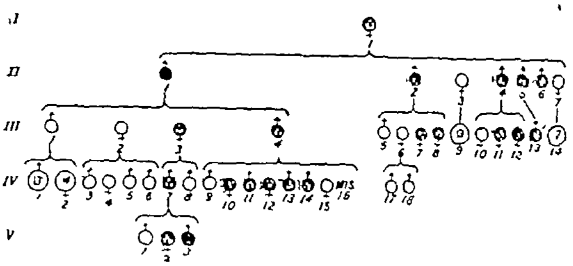
WE are informed that the Postmaster-General has intimated to the Association of British Postal Medical Officers that he "recognises that on the first introduction of a new practice as regards medical officers over 70 some inconvenience may have been caused in particular cases, and if there are instances in which hardship could be shown and at the same time the officer is fully efficient Mr. Buxton would be prepared to consider whether the date of retirement might be postponed for a time." Any postal medical officer desirous of availing himself of this offer would do well to communicate immediately with Dr. R. R Giddings, 206, Mansfield-road, Nottingham, the honorary general secretary of the Association of British Postal Medical Officers.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual election of members of Council of the College will be held on Thursday, July 4th next, at 3 P.M. There will be four vacancies caused by the retirement in rotation of Sir John Tweedy, Mr. Herbert William Page, Mr. Charles William Mansell Moullin, and Mr. Frederic Samuel Eve. We understand that Sir John Tweedy does not intend to offer himself for re-election, but the three other retiring members will again become candidates. The names of several other Fellows have been mentioned as likely to be candidates, among others those of Mr. W. Bruce Clarke, Mr. Charles Higgens, Mr. Charters J. Symonds, and Mr. W. Dunnett Spanton (Hanley), but we hope to give the complete list next week. All nominations must reach the secretary by Monday, June 10th, at the latest. It will be noticed that the hour of meeting has been put later than on previous occasions; this has been done to facilitate the attendance of Fellows, six of whom unconnected with the Council must be present before the commencement of the proceedings. Personal attendance, however, is not essential for the exercise of the privilege of voting, for a voting paper will be sent to every Fellow in the United Kingdom whose address is known to the secretary.

HEREDITARY MAL-DEVELOPMENT OF ENAMEL.

A VALUABLE series of cases illustrating hereditary mal-development of enamel is recorded in the March issue of the Transactions of the Odontological Society. The defect consisted in a stunted development of certain teeth accompanied by a deficiency in the amount of the enamel, the number of teeth affected varying in different members of the family. In all the cases the earlier formed teeth suffered most—namely, the incisors and the first molars, and following these the canines, premolars, and second molars in the order named. In all the cases the third molars, when present, showed a full covering of enamel. On the lower incisors no enamel was found in any case, but some of the upper incisors showed a narrow ring of enamel at the alveolar edge. The eruption and order of succession of the teeth showed no marked irregularity and no trace of tubercle, syphilis, or gout was found, all members of the family being well formed and strong. Lesions of the eye, skin, nails, and hair were absent with the exception of one male, whose vision was corrected with + 1 D. sph. Mr. J. G. Turner was unable to find any explanation of the condition, the lesion, he considered, being a want of energy which allowed cell production to proceed but which inhibited the actual enamel formation and so limited the growth of the enamel organ. An analysis of the particulars given showed that every member married an unaffected stranger and that the defect was transmitted only by abnormals, never by normals, five separate families showing this latter point; males and females were affected, the proportion of abnormals to normals being nearly 2 to 1. The series is interesting to those engaged in the study of heredity and disease. The pedigree of the family is as follows:—



● indicates an affected person.
○ indicates an unaffected person.

A large circle with a number inside indicates a child; where sex is known it is added.

THE BACTERICIDAL PROPERTIES OF TEARS.

OUR Copenhagen correspondent has recently[1] drawn attention to a work by Dr. O. Lindahl on the bactericidal properties of tears. The subject is one which has been submitted to a considerable amount of investigation with contradictory results. Dr. Lindahl finds that the bactericidal properties are abolished by heat and are hence attributable not to the inorganic constituents of the fluid but to organic constituents and leucocytes. Such a view is *a priori* the more probable but the diametrically opposite results obtained by Bach have to be taken into consideration. Bernheim, Marthen, and others agree that the lacrymal secretion has a deleterious effect upon the growth of staphylococcus aureus but Ahlstroem, de Bono and Frisco, and others failed to confirm this result. Helleberg found that the slight effect observed with staphylococcus aureus was abolished by heating to 58° C. and attributed it to alexins. Van Genderen failed to find any bactericidal effect with bacterium coli, and de Bono and Frisco with typhoid, cholera, and diphtheria bacilli, though the virulence of staphylococcus aureus and the diphtheria bacillus was diminished. Römer found that anthrax bacilli kept for eight days in the conjunctival sac, the lids having been sewn together, were still living and virulent. It will be seen, therefore, that the evidence is conflicting and we are only justified at present in asserting that the lacrymal secretion is a bad culture medium for bacteria. A cognate question which has received some attention is the presence or absence of the products of immunisation in tears. Here, again, the evidence is conflicting, though generally in the negative. As regards diphtheria antitoxin, Gosetti and Jona and de Bono and Frisco obtained positive results but these were not confirmed by the researches of Coppez and Demaria. Rymowicz failed to find agglutinins in the tears of dogs immunised against typhoid fever and cholera but Schulz, Dieulafoy, Widal, and Siccard obtained a positive Widal reaction in typhoid fever patients. Another problem nearly allied to the foregoing is the question of the elimination of toxins by the ocular fluids and attention has been drawn to reaction). The same medium in Petri plates is also of service for the subculture by means of parallel stroke inoculations of all Gram-negative cocci which may be found in the primary culture. In these subcultures there is usually such a marked differentiation of the species that the meningococcus, if present, can be selected at once for further diagnostic tests by means of four serum tubes, each containing one of the four sugars recommended by Gordon—namely, glucose, galactose, maltose, saccharose. With 18 hours' incubation the meningococcus shows an acid reaction in glucose, maltose, and galactose. The reaction in the glucose tube is further distinguished in the case of the meningococcus by the production of fluorescence in the water of condensation and by the formation of a yellow deposit of the growth which, as seen through the glass, has often the appearance of pus. This reaction has not been observed in connexion with any other Gram-negative diplococcus. In the galactose tube the reaction is not nearly so pronounced, the growth never appearing more than faintly acid, while in the saccharose tube growth takes place without any apparent change in the medium.

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[1] THE LANCET, May 25th, 1907, p. 1463.

This method, together with the temperature tests (i e., failure of the meningococcus to grow at 23° to 25° C.) affords a very rapid means of isolating the meningococcus. It has the further advantage also that the same medium is suitable for all the tests, for it has been found that a considerable loss of vitality is apt to be incurred in transferring the growth from one kind of medium to another. It may be added that the organism retains its vitality on this medium in capped tubes for at least a fortnight when kept in the incubator.

Public Health Laboratory, Glasgow.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 6th, 1829.

FOREIGN DEPARTMENT.

LITHOTRITIC OPERATION.

M. DUBOIS, the Nestor of French surgery, was lately in a very precarious state of health, so that for a long time his recovery, and even his life, was despaired of. The disease under which he laboured, was stone in the bladder, and we are happy to inform our readers, that it has ultimately been successfully removed by M. Civiale's method, in justice to whom we subjoin the following letter of M. Dubois to the editor of the *Gazette de Santé*:—

"Sir, allow me to acknowledge, by the channel of your journal, the obligations which I feel to my colleagues, for the lively interest they have shown towards me, during my late illness, from which, by the skill of my friend M. Civiale, I have eventually been freed, so that my health is rapidly recovering. I feel proud to be able to add something to the recommendation of M. Civiale's method, which is an effectual substitute for one of the most painful and dangerous operations in surgery, and the invention of which renders his name worthy of a place in the list of the benefactors of mankind.

"I have the honour to be, &c.

"A. DUBOIS."

"4th of May, 1829."

ITALIAN RED CROSS SOCIETY.—The *Official Gazette* of Italy contains a report of the annual meeting of the Italian Red Cross Society held at Rome on May 20th. In his presidential address Count Taverna referred to the society's work in the anti-malarial campaign in the Roman agro and pontine marshes districts and to its exceptional work in dealing with accidents caused by the eruptions, &c., in Calabria and the surroundings of Vesuvius. Special votes of thanks were passed to Professor Postempski for his administration of the anti-malarial campaign and to the president. The new council was elected as follows: Professor Commendatore Gaetono Mazzoni, Professor Bonaldo Stringher (Grand Cordon Cross of Italy), General Doctor Francesco Randone, Commendatore Filippo Geneovesi, and Avvocato Giovanni Ciraolo.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, MAY 29TH.

THE sittings of the Council were resumed at their offices in Oxford-street on Wednesday afternoon, May 29th. Dr. DONALD MACALISTER, the President, again occupied the chair.

Penal Cases.

The Council took up the consideration of penal cases.

The first case was that of George Covey, registered as of 1, Heathcote-street, Mecklenburgh-square, London, W.C., Mem. R. Coll. Surg. Eng. 1864, Lic. Soc. Apoth. Lond. 1865, who had been summoned to appear before the Council on the charge that he was, on April 23rd, 1907, convicted of the following misdemeanours at the North London sessions—namely, of obtaining money by false pretences and of obtaining money by fraud while being an undischarged bankrupt.

The SOLICITOR (Mr. Winterbotham) read the charge and put in a certificate of the conviction.

Mr. Covey did not appear, nor was he represented. However, a letter was read from him expressing his sincere regret for the position in which he stood. He stated that he had been 40 years in the profession and no professional complaint had ever been brought against him.

After consideration of the case *in camerâ*,

The PRESIDENT said: I have to announce that the decision of the Council is that George Covey, having been proved to have been convicted of various misdemeanours, the Registrar has been directed to erase his name from the Medical Register.

The Council then considered the case of Andrew Dunn Turner, registered as of 71, Marina, St. Leonards-on-Sea, M.B., Mast. Surg., 1882, Univ. Glasg., who had been summoned to appear before the Council on the charge that he was on Nov. 21st, 1906, convicted of the following misdemeanour at Lewes assizes—namely, of unlawfully, maliciously, and scandalously writing and publishing an obscene letter at Hastings on June 25th, 1906.

The SOLICITOR handed in the certificate of conviction. Mr. TURNER appeared in person but did not address the Council. A letter, however, was read from him in which he expressed the hope that the Council would be lenient with him for his wife's sake.

The Council having considered the case *in camerâ*,

The PRESIDENT announced its decision. He said: Mr. Turner, I have to inform you that, having been proved to be guilty of a misdemeanour, the Registrar has been directed to erase your name from the Medical Register.

The next case that came up for consideration was that of Edward John Havens, registered as of East Donyland, Colchester, Mem. R. Coll. Surg. Eng. 1879, Lic. Soc. Apoth. Lond. 1879, who had been summoned to appear before the Council on the charge that he was on Nov. 5th, 1906, convicted of the following misdemeanour at Thorpe petty session, Thorpe-le-Soken, Essex—namely, of obstructing the highway; also that he was on Dec. 17th, 1906, convicted at the like session of disorderly behaviour whilst drunk; and also that he was on April 8th, 1907, convicted of the following misdemeanour at Mistley petty session—namely, of common assault.

Mr. HAVENS appeared in person. After the charge had been read and various reports with regard to it submitted Mr. Havens shortly addressed the Council. He mentioned that he had not practised for ten or 12 years.

The PRESIDENT, after the Council had deliberated *in camerâ*, announced its decision in the following terms: Mr. Havens, the Council having considered the case proved against you, adjourn the further consideration of the question until the November session, when you will be asked to appear again before the Council to hear the final result of their deliberation.

The Council then considered the case of James Marston. It was reported to the Council by the Dental Committee that the following facts were established by the evidence:—

(a) The said James Marston is on the Dentists' Register as in practice before July 22nd, 1878, and of the address: The Shrubbery, East Howe, Kinson, Bournemouth.

(b) The said James Marston was convicted of bigamy on Jan. 15th, houses or hospitals should be enforced at once, and in resolutions adopted by the conference the Cape Government was invited to provide such accommodation, to complete the Alexandra Hospital at Maitland which is to have special wards devoted to cases of tuberculosis, and further to appoint a commission to inquire into, and to report upon, the best means of dealing with consumption. A deputation of mayors was appointed to wait on the Government to present these resolutions, copies of which were also furnished to the members of the legislature representing the Cape division. Support for the scheme has been promised by some of the Members of Parliament but there seems to be a general feeling that the funds at the disposal of the Government will not permit of an efficient scientific commission being appointed; it is suggested that a Government inquiry might serve instead. The whole matter is to be brought up in the Parliament of the colony and it is to be hoped that no dilatory or cheese-paring policy will be adopted, for there is no doubt that the soundest economy will be in tackling the problem in a systematic and energetic manner before it has reached such well-nigh overwhelming proportions as is unfortunately the case in the countries of Europe.

INVITATION cards in connexion with the National League for Physical Education and Improvement have been issued for the Duchess of Devonshire's "At Home" at Devonshire House, Piccadilly, London, W., on June 11th, from 3.30 to 6 P.M. The Duke of Devonshire, K.G., will preside at the reception. Those announced to speak are the Lord Chief Justice, Sir Gilbert Parker, M.P., and the Lord Bishop of Ripon. Communications should be addressed to the Secretary, National League for Physical Education, Denison House, Westminster. At the reception those members of the league who wear a knot of ribbon will be pleased to answer questions and to give information to any who may desire it.

THE Home Secretary has issued an Order (Statutory Rules and Orders, 1907, No. 407) extending the provisions of Section 8 of the Workmen's Compensation Act, 1906, to a number of other industrial diseases and injuries. The schedule of diseases and injuries, 18 in number, was drawn up by a committee appointed by the Home Secretary to inquire into the matter. This committee recently issued a report of its deliberations with which we dealt in a leading article published in our issue of June 1st.

AN endeavour is being made to arrange an annual dinner of past and present members of the West African Medical Staff. It is hoped to hold the inaugural dinner in the first week of July. Members of this service who are at present on leave and who have not yet received any communication on the subject are requested to communicate with Dr. W. T. Prout, late principal medical officer, Sierra Leone, as early as possible, at 17, Canning-street, Liverpool.

THE annual Bolingbroke lecture of the South-West London Medical Society will be delivered on Wednesday evening next, June 12th, at 9 P.M., at the headquarters of the 4th Volunteer Battalion East Surrey Regiment (opposite Clapham Junction station). Dr. G. H. Savage is the lecturer and has chosen for his subject the Factors of Insanity. Medical men, whether residing in the district or not, are cordially invited to be present.

THE medical officer of health of the Cape Colony states that for the week ending May 11th 2 cases of plague in man were discovered, 1 on May 5th in a European girl and 1 on May 8th in a native male adult. Both patients resided at King William's Town. The Department of Public Health of Queensland, in a bulletin dated April 27th, states that for the week ending on that date no case of plague occurred in Brisbane.

THE annual general meeting of the Medical Officers of Schools Association will be held on Thursday next, June 13th, at 3.45 P.M., at 11, Chandos-street, Cavendish-square, W., when it will be proposed that members of the scholastic profession shall be eligible for election as associate members. This is an excellent proposal and we hope that it will recommend itself as such to the members.

AT the meeting of the corporation of the City of London held on May 30th it was decided to present the honorary freedom of the City to Lord Lister and to the Earl of Cromer. It is over 100 years since the freedom of the City was bestowed upon a member of the medical profession, the last of our *confrères* so honoured being Edward Jenner.

ON THE DIFFERENTIATION OF THE MENINGOCOCCUS FROM OTHER GRAM-NEGATIVE DIPLOCOCCI IN THE NASOPHARYNX OF CEREBRO-SPINAL FEVER CONTACTS.

BY R. M. BUCHANAN, M.B. GLASG., F.F.P.S. GLASG.,
BACTERIOLOGIST TO THE CORPORATION OF GLASGOW.

THE very considerable number of Gram-negative diplococci met with in the naso-pharyngeal secretion of persons who have been in contact with cases of cerebro-spinal fever has stimulated the desire for some method by which these organisms might be accurately and rapidly differentiated. In the course of the epidemic of cerebro-spinal meningitis in Upper Silesia in the winter of 1904–05 von Lingelsheim[1] isolated seven Gram-negative cocci from the naso-pharynx and was aided in their identification by the presence or absence of ability to decompose certain sugars. These sugars were glucose, lævulose, galactose, mannite, dulcite, saccharose, maltose, lactose, and inulin. The medium on which he tested the action of a given coccus on a given sugar was plated ascitic agar with litmus as indicator. An acid reaction was produced by the meningococcus in 24 hours at 37° C. in glucose and maltose only, while by contrast the micrococcus catarrhalis for example produced no change in the whole series of sugars.

In 1905 Dr. M. H. Gordon[2] pointed out that glucose, galactose, maltose, and saccharose in a fluid medium tinted with litmus had a special application for the purpose of differentiating Gram-negative cocci, and in his recent report to the Local Government Board "On the Micrococcus of Epidemic Cerebro-spinal Meningitis and its Identification" he demonstrates the value of this differential method, with special reference to the meningococcus. The question of acid production was observed during incubation aerobically at 37° C. for a week, when it was found that acid production took place also in galactose. The time required for the production of the acid reaction in the fluid media (from 48 hours to seven days) is undoubtedly a drawback to this valuable differential test.

In the course of extended trials of various nutrient media for the cultivation of the meningococcus in this laboratory it has been found that ox serum after Löffler's formula (three parts ox serum, one part bouillon, and 1 per cent. glucose) gave the best results. Accordingly, to this medium neutral-red in the proportion of 1 to 10,000 was added as indicator. On this medium the meningococcus grows rapidly and profusely, and the neutral-red causes the growth to assume a pink tint. For primary cultures from the naso-pharynx Petri plates are used, and the resulting mixed growth generally shows a number of organisms capable of acid production. There may be one or two species indistinguishable with the naked eye from the meningococcus, but, on the other hand, the medium renders great service in at once differentiating between meningococcus and micrococcus catarrhalis (the latter producing no

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[1] Deutsche Medicinische Wochenschrift, 1905, No. 26 u. 31.
[2] Dunn and Gordon: Brit. Med. Jour., August 25th.

Council should be made clear before they did anything more.

Sir T. **McCall Anderson** seconded the motion.

The motion was agreed to.

Dr. **Saundby** then moved that the report should be formally approved of.

Sir **John W. Moore** seconded.

The motion was unanimously agreed to.

Students' Practical Midwifery Committee.

The reports by the Students' Practical Midwifery Committee as to the inclusion of clinical and practical work in the qualifying examinations in midwifery and gynæcology and also as to the further communications sent by the licensing bodies and teaching institutions of the United Kingdom were received.

The consideration of the recommendations in those reports was deferred until the following day.

The Council at this point adjourned until Thursday.

THURSDAY, MAY 30TH.

The Council resumed its sittings to-day at its offices at 299, Oxford-street. Dr. **Donald MacAlister**, the President, was again in the chair.

Instruction in Midwifery.

Sir **John Williams** moved the adoption of a series of recommendations which, the Students Practical Midwifery Committee submitted, should be substituted for the existing recommendations of the Council in regard to instruction in midwifery.

The first recommendation of which Sir **John Williams** moved the adoption was in the following terms :—

> Every student before commencing the study of practical midwifery shall be required to have held the offices of clinical medical clerk and surgical dresser and to have attended a course of lectures on surgery and midwifery.

He said that in submitting a series of recommendations from the committee on the teaching and practice of midwifery, it was not necessary for him to enter into the reasons why they had come to the conclusions contained in them. Communications had been sent by the committee to the licensing bodies and teaching institutions of the United Kingdom containing a request for their observations on the committee's first report which was received by the General Medical Council on May 28th, 1906. This report was sent to the 27 licensing bodies and the answers which had been received were considered by the committee.

Mr. **Young** formally seconded the motion for the adoption of the recommendation.

Sir **Thomas Fraser** thought that the Council should have good reasons from the committee why it put forward the recommendation in this particular form.

Dr. **Finlay** pointed out that the adoption of any provisions beyond what were really necessary was likely to lead to difficulty.

Sir **John Moore** then moved as an amendment that the word "medicine" should be inserted before the word "surgery" so that it should be set out in the recommendation that every student should have attended "a course of lectures on medicine, surgery, and midwifery."

Dr. **Pye-Smith** seconded the amendment.

Dr. **Saundby** did not see that the amendment would make any serious difference as the recommendation would, without it, provide that every student before commencing the study of practical midwifery should be required to have held the office of clinical medical clerk.

Dr. **McVail** explained the reasons which had influenced the committee in not including the word "medicine." The reports of some of the most important licensing bodies showed that it was useless to make the recommendation as to medicine, and it was undesirable for the General Medical Council to make important recommendations which the most important bodies would not adopt. It was for that reason that the members of the committee—some of them with great regret—cut out the lectures on medicine. Many of the members of the committee thought that medicine should be included, but from the replies they got they saw it was hopeless to get any observance of a rule if they made it. They got a consensus of opinion in favour of including surgery.

Dr. **Lindsay Steven** considered it would be wrong to make any regulation whereby a man should be a clinical clerk before he had received any systematic instruction in medicine. He felt inclined to support Sir John Moore's proposition.

Sir **John Moore**, in replying to the discussion on his amendment, emphasised his view that it was desirable that a man entering on a course of practical midwifery should have a good knowledge of practical and systematic medicine and surgery.

The amendment was declared to be lost after a show of hands had been taken.

Sir **John Moore** then moved another amendment that the words "surgery and" should be omitted from the recommendation.

Sir T. **McCall Anderson** seconded the amendment. He considered that it was unnecessary to bring in this reference to surgery. A clinical medical clerk was a senior student, as was also a surgical dresser.

Dr. **Norman Moore** supported the amendment. To put these lectures into the recommendation would be a most unnecessary obstacle to the student in arranging his work.

Mr. **Morris** said that it was very certain that if they insisted on these students being clinical medical clerks and surgical dressers they would have attended lectures.

The amendment was defeated by 16 votes to 13.

Dr. **Mackay** moved as a further amendment that the following provision should be substituted for the recommendation as moved by Sir John Williams :—

> That every student before commencing the study of practical midwifery shall be required to have attended a course of clinical instruction in medicine, and to have held the office of surgical dresser, and to have attended a course of lectures on surgery and midwifery.

Dr. **Finlay** seconded the amendment.

Dr. **Caton** remarked that the committee believed that in framing its recommendation it had outlined a reform which would make the study and practice of midwifery much more serious and much more practical in the future than it had been in the past.

Sir **John Williams** mentioned that a large majority of the licensing bodies were in favour of having the provision as to medical clerks and surgical dressers as the committee had set it out.

The amendment was lost on a show of hands.

The recommendation proposed by Sir **John Williams** was then adopted *nemine contradicente.*

Sir **John Williams** then moved the adoption of the following recommendation :—

> Every student shall be required either
>
> (*a*) To have regularly attended the indoor practice of a lying-in hospital or the lying-in wards of a general hospital for a period of three months; and after having received therein practical instruction in the conduct of labour, under the personal supervision of a medical officer, to have conducted 20 cases of labour under official medical supervision; or
>
> (*b*) To have conducted not less than 20 cases of labour, subject to the following conditions—
>
> That he has, during one month, given regular daily attendance upon the indoor practice of a lying-in hospital or the lying-in wards of a general hospital; and that he has therein conducted cases of labour under the personal supervision of a medical officer of the hospital, who shall, when satisfied of the student's competence, authorise him to conduct outdoor cases under official medical supervision.

Mr. **Young** seconded the motion.

Mr. **Morris** remarked that such a provision would throw difficulties in the way of London students owing to lack of opportunities they would experience in obtaining the midwifery cases.

Dr. **Langley Browne** moved as an amendment to insert in Clause (*b*) after the words "general hospital," "or of a Poor-law infirmary having a resident medical officer recognised for that purpose by any of the licensing bodies." Some of these Poor-law infirmaries, he said, would be as good as lying-in hospitals in providing the necessary midwifery experience for students, and he did not see why the opportunities which they afforded should not be utilised.

Dr. **Lindsay Steven** seconded the amendment.

Sir **Charles Ball** commented on the provision in the recommendation that the student should be required "to have conducted 20 cases of labour." If by "conducting" it was meant that one case of labour would only be attended by one student it would be impossible for every student to get cases. It seemed to him that it was an impossible thing to require that each student should have the personal conduct of 20 cases. He could not, therefore, see how this recommendation could be carried out.

Sir **Thomas Fraser**, speaking from the experience on this point in Edinburgh, thought that the committee had fixed the number of cases much too high. The same purpose would be served by eight or ten cases.

1906, at the Dorset assizes and was sentenced to 12 months' imprisonment with hard labour.

Mr. Marston did not appear nor was he represented.

After consideration of the case *in camerâ*,

The PRESIDENT said: I have now to announce that James Marston, having been proved guilty of a felony, the Registrar has been directed to erase his name from the Dentists' Register.

The next case considered was that of Thomas William Frederick Stewart. The complaint against Mr. Stewart having been referred to the Dental Committee, he appeared before it on May 27th, 1907, and was duly heard. The Committee found that Mr. Stewart was on Nov. 21st, 1906, convicted at Lewes assizes of feloniously embezzling the several sums of 10*s.* on July 15th, £1 8*s.* on Sept. 23rd, and £5 5*s.* on Oct. 7th, 1906, moneys of Frederick Charles Proctor, his master.

This report having been read Mr. STEWART briefly addressed the Council.

The PRESIDENT, after the usual deliberation of the Council *in camerâ*, announced the decision. He said: Thomas William Frederick Stewart, I have to announce that the Council have carefully deliberated on your case and have come to the following finding: Thomas William Frederick Stewart, having been proved to have been convicted of a felony, the Registrar has been directed to erase his name from the Dentists' Register.

The Council took up consideration (adjourned from Nov. 29th, 1906) of the facts proved against William Henry Moseley and James Parkinson, whose names appear on the Dentists Register as "in practice before July 22nd, 1878," and who were connected with the company of Foley's, Limited.

A supplementary report on these cases was received from the Dental Committee in which it was stated that the committee had found that both Mr. Moseley and Mr. Parkinson had, since the hearing of the case by the Council in November last, done their best to sever their connexion with the company and they had both parted with their shares in the company, and they had respectively practised at Ipswich and at Uxbridge-road independently of the company and there was no evidence that their professional conduct in the interval had been otherwise than satisfactory.

Mr. Parkinson appeared in person but Mr. Moseley did not attend.

The PRESIDENT said that he was authorised by the Dental Committee to say that a certificate had now been received to the effect that Mr. Parkinson had entirely severed his connexion with the company by transferring his shares in it.

The PRESIDENT, after another brief deliberation with the Council *in camerâ*, said: Mr. James Parkinson, I announce to you and through you to Mr. William Henry Moseley that the Council, having further considered the charge against you and the report of the Dental Committee, have not adjudged you guilty of disgraceful or infamous conduct in a professional respect.

That concluded the consideration of the penal cases on the agenda.

The Council and the British Medical Association.

A report by the Executive Committee on a communication from the British Medical Association was received and entered on the minutes.

The report is in the following terms:—

The Executive Committee reports that at its meeting on Monday, May 27th, 1907, it considered the following communication from the British Medical Association:—

British Medical Association, Medical Secretary's Office,
429, Strand, London, W.C.;
Temporary address, 6, Catherine-street, Strand, W.C.,
April 16th, 1907.

DEAR SIR,—The annual representative meeting in July last decided that the British Medical Association should act as complainant in cases which, in the judgment of the Association, might require to be brought before the General Medical Council.

The Central Ethical Committee of the Association is the body whose duty it would be, on behalf of the Association, to consider whether a given case should be brought before the General Medical Council and prepare the case for the consideration of that Council.

The attention of the Central Ethical Committee has been drawn to certain decisions of the courts which make it clear that no member of the General Medical Council who has acted in such a position, for example, as member of council of a medical defence or protection society, could take part in the hearing by the General Medical Council of a case presented by the council of which he was a member. From one at least of the recorded cases, it would appear doubtful whether a person who was merely an ordinary member of a body, such as the Medical Defence Union, engaged in the presentation of cases on behalf of individual medical practitioners, could sit as a member of the Council in hearing a case presented by such a body.

The committee finds that a large majority of members of the General Medical Council are members of the British Medical Association, and some members of the General Medical Council are members of the central council of the British Medical Association or of central committees.

Having regard to these facts, but recognising at the same time that the position of the British Medical Association is somewhat different from that of bodies whose sole object is the defence of their own members, it appears to the committee advisable that the attention of the General Medical Council should be called to the position created by the decision of the Association to act as complainant in cases which may be thought to require the consideration of the General Medical Council, in order that the position of the various classes of members of the Association who might be concerned may be considered without reference to any particular case.

The committee conceives that some distinction might possibly be recognised at law in the position of the following different classes as regards their respective degrees of responsibility for the action of the Association in bringing individual cases before the General Medical Council:—(*a*) members of the Central Ethical Committee of the Association, which has been entrusted with the general duty of bringing cases before the General Medical Council without waiting for a specific authority in each case; (*b*) the central council, to which the Central Ethical Committee reports, and under whose direction it acts in some matters, while having a general authority in others; (*c*) members of central committees, other than the Central Ethical Committee, who are not members of the central council; (*d*) members of the annual representative meeting, a body annually elected, which appoints some members of and receives an annual report from the committee and gives general instructions to it, but would not have any direct responsibility for the presentation of a specific case; and (*e*) ordinary members of the Association, who are not directly engaged in its central administration.

In considering the position of these various classes it is suggested that regard may also be had to the wide range of objects of the Association and its large membership, extending throughout the British Empire, which may, it is submitted, be held to make the responsibility of an individual member of the Association, who is not a member of the Central Ethical Committee, merely nominal. At all events, such a member could not, it is submitted, reasonably be held to have prejudged a case of which he had no previous knowledge.

I am, yours faithfully,
E. H. KINSEY,
Chairman of the Central Ethical Committee.

Donald MacAlister, Esq., M.D., President of the General
Medical Council, 299, Oxford-street, W.

(*b*) The foregoing letter had, by direction of the President, been forwarded by the Registrar to the Council's solicitor for his remarks. The following reply, which had been received, was read to the Committee:—

1, New-court, Carey-street, Lincoln's Inn, W.C.,
April 24th, 1907.

DEAR MR. ALLEN,—In reply to your letter of the 23rd with regard to membership of the British Medical Association, I don't think anyone reading Lord Justice Fry's judgment in Leeson's case, pages 63 to 58 of the Cases, could say that it is at all desirable that members and subscribers to the funds of the British Medical Association should sit in judgment on cases in which that body are prosecutors. Lord Justice Fry was in a minority, but both the other learned judges treated the matter as a very serious one, while coming to the conclusion that there was no sufficient proof of bias to justify them in setting aside the judgment of the Council. Lord Justice Fry held that a subscriber to an association of this kind is virtually a prosecutor, that by subscribing to the society he indicates his sympathy with the general proceedings of the body in carrying on those transactions, and that such subscribers cannot be said to be free from suspicion of bias or prejudice in the cases of prosecutions instituted by the association to which they *subscribe*.

I think Lord Justice Fry's judgment covers this case, the only difference being that *this* Association has many objects, and this is a new object which they are now undertaking, but I really don't think this makes any material difference.

As Lord Justice Fry says, it is a matter of public policy that the proceedings of the Council should not only be free from bias or prejudice of the judges, but that they should be free from the *suspicion* of bias or prejudice, and clearly the proper course is not for a member of the Council to withdraw from the decision of a case in which the B.M.A. are prosecutors but to withdraw from membership of that body.

Faithfully yours,
WM. H. WINTERBOTHAM.

H. E. Allen, Esq., *Registrar*, 299, Oxford-street, W.

Mr. Lushington, at the request of the committee, also advised them in regard to the legal aspects of the question raised by the action of the British Medical Association.

It was resolved—

"That the Executive Committee, being advised that no member of the British Medical Association should act as a member of the Penal Cases Committee or take part in adjudicating as a member of the Council in cases in which the British Medical Association or any branch of it acts as complainants, are unanimously of opinion that it is under the circumstances undesirable that a member of the Council should during his tenure of office be a member of the British Medical Association or any other body which may submit complaints to the Council for inquiry.

May 27th, 1907. DONALD MACALISTER, Chairman."

Dr. SAUNDBY moved that the report should be sent to the general secretary of the British Medical Association for the information of that body. The letter of the chairman of the Ethical Committee, he said, seemed to be anticipating the powers which might at some future time be possibly conferred on the British Medical Association under the charter which was now being discussed and which at the present moment it did not possess. It was most desirable that the position of the British Medical Association towards this report of the Education Committee, one of the features of which was a very elaborate table of statistics referring to the ages at which students commenced study and at which they qualified, together with figures relating to the length of the curriculum actually pursued. Great care and labour had been expended by the office staff of the Council in drawing up this large table which dealt with the educational history of 1111 Licentiates and Graduates in Medicine of the year 1906. Of these, 542 qualified in England, 402 in Scotland, and 167 in Ireland. Now this table of statistics, which was presented with the report, had been divided into three great sections. There was amongst the entrants one central group containing about 80 per cent. of the whole and these commenced study at an age falling within the period of five years from 17 to 21 years inclusive. The group of those who entered earlier than 17 years of age contained about 5 per cent. of the whole, whilst the group of those who entered after 21 years of age was 15 per cent. Amongst the licentiates a similar arrangement prevailed. The central group, numbering about 80 per cent. of the whole, was composed of those who qualified within the period of seven years between 23 and 29 years of age inclusive. Those who qualified at 22 years of age or under numbered 5 per cent. of the whole. Some interesting statistics had been tabulated with regard to the mean age of the 1111 entrants, the ages above 25 being reckoned as 25. That table set forth that in the case of England the mean age was 19 years 2 months, in Scotland 19 years 3 months, and in Ireland 19 years 7 months. That gave a general mean age over all the country of 19 years 3 months. The preliminary examination was associated with students' registration, but everyone was aware that the registration of the student was a voluntary act. In anything which the Council might do with the object of improving the standard of the preliminary examination it had to be careful to carry with it the good will and support of all the licensing bodies. This question had engaged much of the attention of the Council. In 1891 more active work was begun in respect to it. In consequence of the many complaints which had been sent to the Council the matter was taken up very thoroughly and the whole system of entrance examinations was revised. In 1900 a most important step was taken and an elaborate report on the subject was undertaken by three experts appointed by the Council. He could only characterise that document as one of the most important educational documents ever drawn up in this country, because it went into the educational conditions of the time, and it showed the Council what could reasonably be demanded and the lines upon which further progress should be laid. The Council had had since that time a definite purpose and they were reaching the stage at which the senior examination should be the sole portal of entry to the medical profession. He thought that it ought to be recognised that the Council had played a most important part in the general education of the country. Now, with regard to the length of the curriculum something must be said. There were many complaints with regard to the length of the present curriculum, and the final teachers had stated that the time for their important subjects had been much encroached upon. One suggestion was to add a sixth year to the curriculum, and another was to cut out certain preliminary studies. A third suggestion was to institute a system of "blocks." Whether any one or two of these suggestions should be adopted would require considerable attention on the part of the Council, because in whatever they adopted they must enlist the sympathy of the licensing bodies. The mean length of the curriculum of the licentiates who qualified in 1906 was 6 years 11·3 months over the whole of the country. In England it was 7 years 4·9 months, in Scotland 6 years 6·2 months, and in Ireland 6 years 5·1 months. Dr. Mackay then directed the attention of the Council to certain remarks made in the concluding paragraphs of the report. The figures which were submitted in the report, it was therein stated, would afford material for a preliminary study of the questions at issue. It was important to determine whether in the present circumstances the later years of the curriculum, in the case of those who completed the course under seven years, were being encroached upon by work properly belonging to the earlier period, and whether any action was needed to insure for each or any of the groups of subjects a due proportion of the time allotted to the whole. The statistics embodied in the report threw a certain amount of light on the subject. In this connexion it became exceedingly important to know that there was a marked difference between the course pursued in Scotland and that pursued in England. They had in the case of the larger bodies in England, in the Conjoint Board and the University of London, in full operation what was known as the "block" system. That was to say, that candidates were forced to give at least two years to studies belonging to the final examination. In the case of the Scottish universities there was no such requirement and it was not unreasonable to infer that the difference between the average lengths of the curriculum as actually pursued in the two countries might be associated with this important diversity. The Education Committee now wished to apply to the licensing bodies for further particulars about those licentiates who qualified in seven years. They did not think it would be necessary in this connexion to deal with the cases of those who had spent more than eight years in the study of medicine. Such an investigation promised to yield valuable results.

Dr. NORMAN MOORE seconded the motion. After the thoroughly explanatory and lucid statement of Dr. Mackay on the report it would be unnecessary for him to make any remarks except to emphasise that this was an interim report, or, so to speak, the first volume of a collection of information which would be of great assistance to the Council.

The PRESIDENT said that he had seldom seen a body of statistics which promised to yield more fruitful results than those embodied in the report.

Dr. Mackay's motion was then unanimously agreed to.

The Finance Committee's Report.

Dr. PYE-SMITH moved the adoption of the report of the Finance Committee. That report showed that the income of the General and Branch Councils for the year ending Dec. 31st, 1906, having been £8473 14s. 2d. and the expenditure for the same period having been £8433 8s. 7d., there was a surplus of £40 5s. 7d. The Finance Committee further put on record its opinion that this result might fairly be considered satisfactory when it was remembered that the cost to the three branches of the election of Direct Representatives amounted to £870 4s. Had it not been for this expense the surplus would have been £910 9s. 7d., as against £907 18s. 8d. last year. The committee in the course of its report congratulated the Council on the expedition with which it carried out its business last year. The number of days occupied by the sessions was the same as in 1905, for though the summer session was a day longer a day was saved at the winter session. This was the only way in which any large economy could be effected and the committee desired to ask the Council to continue to bear in mind the great importance of carrying on its deliberations with business-like brevity. The committee embodied a recommendation in its report that a grant of £100, if required, should be made towards the expenses of the Irish Branch Council during the current year.

Mr. TOMES seconded the motion for the adoption of the report and it was unanimously agreed to.

The Dental Committee's Report.

The report of the Dental Education and Examination Committee was received.

Mr. TOMES moved that the application of the University of Sydney for the recognition of its degree of Bachelor of Dental Surgery should be acceded to. He said that the Dental Committee was now prepared to recommend the Council to accept this motion. At the November sittings of the Council it was agreed to defer the consideration of the application of the University of Sydney for recognition of its degree of Bachelor of Dental Surgery until further information had been received whether the general medical and surgical instruction was given at a general hospital or at a special school, and whether reciprocal recognition was given to British qualifications. The University of Sydney had informed the Registrar of the Council that the medical and surgical portions of the dental students' education were conducted at a large general hospital, and the committee reported on the information furnished that no exception could be taken to the conditions prevailing at it. They also were satisfied that reciprocity was adequately secured.

Mr. MORRIS seconded the motion, which was carried.

Mr. TOMES further moved that the following recommendation of the Dental Committee should be adopted by the Council:—

> That it be represented to the Secretary of State for the Colonies that it is desirable that recognition of foreign dental diplomas shall only be granted in the case of those countries which give reciprocal recognition to British diplomas in dental surgery.

Dr. LATIMER, as a general practitioner, expressed the opinion that the whole profession would welcome the increase in the systematic instruction on midwifery. It behoved them as a profession to have their members fully equipped in this matter. With the new departures in respect to midwives, he considered that a good deal of consultative work would occur for them and therefore they should not whittle down the number of cases to be attended.

The PRESIDENT at this point announced that two amendments besides that of Dr. Langley Browne had been handed to him bearing on the subject now under consideration. It would be for the convenience of the Council in carrying on the general discussion if their terms were announced at this stage. He would put them one by one after the discussion had terminated.

Sir CHARLES BALL intimated that he would move an amendment to the effect that in the case of the student who attended at a lying-in hospital or the lying-in wards of a general hospital for three months only ten cases of labour should be personally conducted, and in the case of the student who gave attendance for one month only 15 cases should be required.

Sir T. McCALL ANDERSON undertook to second this amendment.

Dr. SAUNDBY put forward an amendment to the effect that the Council should record its opinion that it was desirable that the provisions contained in the recommendation should only be put into operation "where the necessary hospital facilities exist." He said that he did not think it was fair to pass a resolution of this sort with the knowledge that a great many teaching bodies could not carry out its provisions. While he did not want to throw cold water upon them he thought that the Council should, at least, prefix them with such a preamble as would show that it recognised that they could not be carried out in parts of the country like Birmingham.

Mr. MORRIS was the seconder of Dr. Saundby's amendment.

Dr. McVAIL hoped that the Council would not accept any qualification of the kind put forward by Dr. Saundby. He said that there was a great scientific school of medicine at Cambridge. He wondered how Parliament would regard matters if that University said that their men need not know anything about clinical medicine or clinical surgery because they had not got the requisite opportunities of obtaining the training on the spot. Now, the question before the Council really resolved itself into this—what was the number of cases requisite for obtaining practical instruction in midwifery? He did not think any committee had ever given more attention to the matter remitted to it than had the committee which brought forward the recommendations which they were now discussing. From the information which the members had before them they came to the conclusion that a man should not be certified as being qualified in midwifery in the sense of the requirements of the Medical Act unless he had attended 20 cases of labour. If a teaching body said that it could not provide 20 cases for each student it was surely not a part of the Council's work to help in passing men into the profession who had not been sufficiently taught. If students could not get the requisite number of cases in one locality they should go elsewhere for their midwifery experience. He objected entirely to the proposals of Dr. Saundby. The Council had to insist on the students getting adequate teaching. The committee had felt that they should take some steps to secure that students should be apprised of the strides which had been made in the teaching of midwifery. 20 cases should be the minimum of the number conducted by them.

Dr. LITTLE considered that the Council should only expect what was reasonable and what could be done at medical schools, but so far as they had power the authorities of the latter should make the recommendations of the Council obligatory. He would support the amendment of Sir Charles Ball, although he thought that that gentleman underrated the facilities for midwifery in the Dublin hospitals.

Sir HUGH BEEVOR expressed sympathy with Dr. Saundby's propositions.

Sir CHRISTOPHER NIXON confirmed all that Dr. McVail had said about the time and labour given by the committee to its report. Members of the Council must remember what it was that led to the appointment of the committee to consider the instruction given in midwifery. It was appointed to deal with statements to the effect that the practice of midwifery as carried on throughout this country led to a considerable amount of mortality. This was, therefore, a question which affected the community generally and on which the general public would watch with very great interest the action taken by the Council. It was a question of human life. He did not think that the Council ought to hesitate for a moment to make a recommendation on this subject which, if not carried out now, would be carried out in the future. The recommendation of the Council should be based on what they considered necessary to prevent the loss of human life, even although it would not be possible in particular places to have it carried out at once.

Dr. KIDD, as a general practitioner, expressed agreement with the views advanced by Dr. McVail.

The PRESIDENT then proceeded to put the various amendments *seriatim* to the vote.

The amendment of Dr. Saundby was lost on a show of hands.

Dr. Langley Browne's amendment to include Poor-law infirmaries amongst the institutions where students might gain midwifery experience under the conditions of Clause (*b*) was unanimously agreed to.

Sir CHARLES BALL said that before his amendment was put to the vote he would like to make some remarks on it. It was quite possible that a student might have seen 100 midwifery cases but might not have conducted 20. He would repeat that if each case was to be conducted by one man, and one man only, then the material available in large towns was not always sufficient to provide each student with 20 cases. In asking the Council to reduce that number he would point out that under the conditions of Clause (*a*) of the proposed recommendation much more careful teaching would be given than under the conditions of Clause (*b*). That was the reason why he proposed to substitute 10 cases for 20 cases in the first clause and 15 cases for 20 cases in the second. It had been shown that while mortality was decreasing in hospitals in midwifery cases it was not decreasing outside. That bore out his argument for differentiating the cases as he had done in his amendment.

Dr. WALKER declared that he was in entire sympathy with Sir Charles Ball's amendment. As a teacher he did not believe that it was necessary for each student to have 20 cases. If he had resided in a maternity hospital for one month he would know a great deal more about midwifery at the end of the time than if he had conducted 100 cases on his own responsibility.

Sir CHARLES BALL'S amendment was lost on a show of hands.

The original motion as amended by the introduction of Dr. Langley Browne's proposal was then put as a substantive motion and agreed to.

Sir JOHN WILLIAMS then moved the adoption of the following recommendation of the committee:—

> No certificate that the student has conducted the above-mentioned 20 cases of labour should be accepted unless it is given by a member of the staff of a lying-in hospital, or of the maternity charity of a general hospital, or of a dispensary having an obstetric staff recognised for that purpose by the licensing bodies, or of a Poor-law infirmary having a resident medical officer as recognised.

Dr. LATIMER seconded the motion which was agreed to.

Sir JOHN WILLIAMS then moved:—

> That the attention of the licensing bodies should be called to the necessity in the public interest of instituting clinical and practical examinations in midwifery and gynæcology in connexion with each of the qualifying examinations.

Dr. LATIMER seconded the motion which was carried by 16 votes to 11. Four members who were present declined to vote.

It was also agreed that copies of the resolutions which had just been passed and of the reports of the Students Practical Midwifery Committee should be sent to the licensing bodies and teaching institutions of the United Kingdom.

The Report of the Education Committee.

On the motion of Dr. MACKAY the interim report of the Education Committee was received and entered in the minutes.

Dr. MACKAY then moved that the recommendation contained in the interim report of the committee should be adopted. Its terms ran thus:—

> That the President be authorised to apply to the licensing bodies for information regarding the dates at which the various professional examinations were entered for and completed in the cases of those of their licentiates the statistics of whose educational career are included in the table upon which the report is founded.

He proceeded to explain to the Council the scope of the requirements of the Council in regard to professional education." He wished it to be understood that the committee offered no opinion as to the manner in which the subjects should be combined or distributed for the purpose of teaching and examination.

Dr. NORMAN MOORE seconded the motion, which was carried.

Dr. MCVAIL then moved :—

> That the Medical Council is of opinion that when the subjects which are usually taken together are entered upon singly the pass standard should be at least 60 per cent.

The PRESIDENT said that before Dr. McVail spoke to his motion he would like to point out that the Council was asked by the Privy Council whether this ordinance was contrary to its existing regulations. However, they were now being invited by Dr. McVail to pass an *ad hoc* resolution which was not now on their books. He could not help thinking that was a dangerous course for the prestige of the General Medical Council. The motion was contrary to their actually existing resolution and therefore if it were carried it would mean rescinding the latter.

Dr. MCVAIL said that he must ask the kindness of the Council to allow him to explain the position. The Council, he might point out, was required to inspect the licensing bodies. What kind of inspection could they carry out if they were to have a man coming up for a single subject? They were asked by the University of Edinburgh to believe that the great bulk of the students would take their subjects in divisions. Who were the men who would take them in divisions? Would it be the good men or the weak men? He asked the Council to answer for themselves the question whether this proposed legislation was for strong men or weak men. It already happened that the University of Edinburgh had power under a particular ordinance.

The PRESIDENT : Excuse me interrupting you, Dr. McVail, but I might suggest that it would be better to keep out of these university matters and stick to the subject of the motion.

Dr. MCVAIL : Very well. He held that as the Privy Council had submitted the ordinance for the opinion of the General Medical Council they should make their representations in reply. He held that they were invited to make any observations which they had on it. Further, he might point out that this ordinance had a most important effect. It would at once lead to changes in many of the other licensing bodies. Of course, if the changes would be for the better, good and well. For his part he thought that they were very much for the worse. The ordinance would hinder the inspection work of the Council. The examiner would not see the student at work on more than one or two subjects. He did think that there was the gravest objection to the ordinance from the examination point of view and from the point of view of the inspection of examinations. It was very bad for the student, and the ordinance should not pass without the opinion expressed in his motion being placed before the Privy Council.

Sir JOHN MOORE seconded the motion. He understood that it was the intention of the Edinburgh faculty that the standard to be attained by students in the various subjects should be raised. However, he thought that the Council should express the opinion contained in Dr. McVail's motion. It was a most mischievous thing that students in the first years of their study should be allowed to take the subjects of examination piecemeal.

Dr. MACKAY thought that what Sir John Moore had mentioned with regard to the raising of the standard should bring the discussion to an end. They were all of opinion that a higher standard ought to be exacted when subjects were taken separately, but the University of Edinburgh had assured them that the standard there was to be heightened.

Sir THOMAS FRASER said that Dr. McVail had told them that the great object of the ordinance was merely to allow men to scrape through. That was nonsense.

Dr. MCVAIL : I did *not* say that. I said that the object of the ordinance was that men would be allowed to go in for examination in separate subjects.

Sir THOMAS FRASER : And the result would be that men would scrape through. That was not the case. The Edinburgh authorities, on the contrary, wanted to make their medical education more thorough and they could only do that by the changes which they proposed in the ordinance. He repudiated in the strongest and most emphatic manner the suggestion that the aim and object of this change of ordinance was to let men get through easily.

Dr. MCVAIL : I must take exception to that. Sir Thomas Fraser has imputed to me opinions which are not in my mind. I am speaking here as a member of the Examination Committee which has to satisfy the Privy Council in dealing with certain changes in the ordinance. The object of the ordinance is to let men through in single subjects.

The PRESIDENT : You have made your explanation, Dr. McVail. You are not entitled to make a second speech at this stage.

Sir THOMAS FRASER : I accept the explanation.

Dr. MCVAIL : It is not an explanation.

Sir THOMAS FRASER said that the passing of the motion of Dr. McVail might be a very serious matter. It had taken the Edinburgh authorities more than five years to determine upon the change. If the Privy Council accepted the suggestion the only course for them would be to throw out the ordinance. That would be a matter for deep regret.

The PRESIDENT pointed out that Dr. McVail's motion was not the motion of the Examination Committee. He (the President) was a member of the University Court of Glasgow which had taken a definite position against this ordinance. For himself he had determined when he was occupying the chair at the meetings of the General Medical Council that he must be absolutely neutral, and that he must guide it so that it might come on this occasion to a decision which was universal in its application and not particular to this ordinance. His view was that what the Council was now asked to do was to carry a motion which appeared to be generally uniform but which was only applicable to this particular case.

Dr. MCVAIL, in replying to the discussion, said that it was somewhat unfortunate in this connexion that he happened to be on the governing body of a university which opposed the principle of this ordinance. That university opposed it on the broad ground of general medical teaching. Personally he would therefore rather not have had to deal with this matter, but it had fallen to him officially to consider it as chairman of a committee. However, he could not advocate opinions which he did not believe. He could assure the Council that there was no desire on his part or on that of anyone with whom he had been connected to reflect in any way upon the University of Edinburgh. That University thought that by splitting up the subjects it would attain to a higher standard. He believed that it would not do so. The standard would be lowered and the influence on other institutions would be bad, and the ordinance would make the work of inspection on the part of the General Medical Council extremely difficult and of far less value than it had hitherto been.

On a division Dr. McVail's motion was defeated. Seven members voted in favour of it and 17 against it, whilst five members who were present declined to vote.

Mr. THOMSON then moved :—

> That the Council having considered the proposed ordinance of the University of Edinburgh find nothing therein which is contrary to the Council's resolution on professional education and examination.

Dr. MACKAY seconded the motion which was carried by 15 votes to three. Nine members present did not record votes.

Appointment of Registrar.

The Council unanimously agreed to reappoint Mr. H. E. Allen to the office of General Registrar.

Concluding Proceedings.

Replying to a vote of thanks,

The PRESIDENT said that he had been accused this session of having made the Council sweat. He was sure that he had drawn an equal amount of perspiration from himself. He thanked members for the sympathy which they had extended to him in the difficult position which he had that day occupied. From one point of view he sympathised with Dr. McVail, but he could not follow his own bent in that matter if by doing so he felt that he was leading the Council beyond the proper lines of action.

This concluded all the business on the agenda paper, and the session being at end the Council rose to meet again in November.

THE HANDEL COSSHAM MEMORIAL HOSPITAL.—The Handel Cossham Memorial Hospital, Kingswood, near Bristol, was formally opened on June 1st by the Right Hon. Augustine Birrell, M.P., in the presence of a very large gathering. It has been erected in accordance with the will of the late Mr. Handel Cossham, formerly M.P. for a division of Bristol. The cost of the building has been £30,000 and about £80,000 have been set aside for its maintenance and support.

He pointed out that this motion was brought forward to meet a state of affairs which had arisen in Mauritius. He said that instead of prohibiting the use of a title the colonies were with complete uniformity adopting an absolute prohibition of unqualified practice—a state of things which they hoped for in this country but which seemed to be far distant. The committee noted that under a Mauritius ordinance it was made unlawful under penalty for unqualified and unregistered dentists to practise in that colony. However, by a section of that ordinance the holders of British qualifications were placed in the same position as the holders of certain foreign diplomas as regarded practice in Mauritius. These foreign diplomas could be obtained under less stringent conditions than in this country, and would, on account of their insufficiency, not be recognised for registration in Great Britain. It was, however, the case that in certain other colonial ordinances a safeguard had been provided by the requirement that the diplomas of foreign countries should be recognised only in the case of those countries which provided reciprocal recognition for British registrable diplomas. The committee thought that all these circumstances should be brought under the notice of the Secretary of State for the Colonies.

Dr. LINDSAY STEVEN seconded the motion, which was agreed to without further discussion.

Examinations for the Services.

Dr. MCVAIL, as chairman of the Examination Committee, presented a report analysing the successes and failures of medical licentiates who had undergone the examinations for the Royal Navy Medical Service, the Royal Army Medical Corps, and the Indian Medical Service within the past eight months.

The report was received and entered on the minutes.

Students' Registration Committee.

Sir HUGH BEEVOR presented the report of the Students' Registration Committee, to which the Council gave its approval.

Appointment to Committees.

The following committees of the Council were then appointed:—

Examination Committee.—Dr. Pye-Smith, Mr. Young, and Dr. Caton (nominated by the English Branch Council); Sir Thomas Fraser, Dr. Finlay, and Dr. McVail (nominated by the Scottish Branch Council); and Sir Thomas Myles, Dr. Little, and Sir Charles Ball (nominated by the Irish Branch Council).

Education Committee.—Dr. Norman Moore, Sir G. Philipson, and Sir J. Williams (nominated by the English Branch Council); Dr. Mackay, Sir John Tuke, and Sir T. McCall Anderson (nominated by the Scottish Branch Council); and Dr. Little, Sir C. Nixon, and Sir John Moore (nominated by the Irish Branch Council).

Public Health Committee.—Dr. Cocking, Mr. Power, and Dr. Langley Browne (nominated by the English Branch Council); Dr. Norman Walker, Dr. Lindsay Steven, and Dr. McVail (nominated by the Scottish Branch Council), and Sir John Moore, Sir T. Myles, and Dr. Adye-Curran (nominated by the Irish Branch Council).

Pharmacopœia Committee.—The President (chairman), Dr. Norman Moore, Sir G. Philipson, Dr. Caton, Dr. Barrs, Sir Thomas Fraser, Dr. McVail, Sir John Moore, and Dr. Little.

Finance Committee.—Dr. Pye-Smith (chairman), Mr. Tomes, Sir John Tuke, and Dr. Little.

Dental Committee.—The President (chairman), Mr. Tomes, Mr. Hodsdon, and Sir Thomas Myles.

Dental Education and Examination Committee.—Mr. Tomes (chairman), Mr. Morris, Dr. Lindsay Steven, Dr. Finlay, Sir Thomas Myles, and Sir Charles Ball.

Students' Registration Committee.—Sir Hugh Beevor (chairman), Dr. Norman Moore, Sir John Tuke, Dr. Mackay, Sir C. Nixon, and Dr. Adye-Curran.

Executive Committee.—Sir Hugh Beevor, Dr. Pye-Smith, Mr. Young, Mr. Tomes, Sir John Tuke, Dr. McVail, Sir John Moore, and Sir Charles Ball.

Penal Cases Committee.—Dr. Saundby, Mr. Tomes, Dr. Finlay, and Sir C. Nixon.

The Council then adjourned until the following day.

FRIDAY, MAY 31ST.

The Council resumed its sittings at noon to-day, Dr. MACALISTER, the President, again occupying the chair.

The Report of the Pharmacopœia Committee.

Dr. NORMAN MOORE presented the report of the Pharmacopœia Committee and moved its adoption. The report contained a copy of the international agreement respecting the unification of the Pharmacopœial formulas for potent drugs signed at Brussels on Nov. 29th, 1906. The committee in the course of its report expressed the opinion that the time had now arrived when a communication should be addressed to the Royal Colleges of Physicians of London, of Edinburgh, and of Ireland, and to the other medical authorities, inviting their suggestions for the revision of the Pharmacopœia, in preparation for the next issue. A circular letter had accordingly been drafted and would shortly be issued by the President on behalf of the Council.

Sir JOHN MOORE seconded the adoption of the report which was agreed to without debate.

The Proposed Ordinance of the University of Edinburgh.

The Council then proceeded to consider reports submitted to it bearing on the alterations in regulations for degrees in medicine introduced into the proposed new ordinance of the University of Edinburgh. The Council had before it the sections of the ordinance at present in force and the provisions by which it was intended to supersede them. The proposed new ordinance contains the following provisions:—

> Each candidate shall be examined both in writing and orally, and also clinically where the nature of the subject admits, in the following divisions—viz.: first, in botany, zoology, physics, and chemistry; second, in anatomy and physiology; third, in pathology and materia medica and therapeutics; and fourth, in surgery and clinical surgery medicine and clinical medicine, midwifery, forensic medicine, and public health.
>
> Candidates who profess themselves ready to submit to an examination in any of the subjects comprised in the first division, viz.: botany, zoology, physics, and chemistry, may be admitted to examination in one, or in any number of, these subjects, at any examination held after they have attended the necessary qualifying course or courses in each of the subjects professed.
>
> Candidates who have passed their examinations in the subjects comprised in the first division may be admitted to examination in each of the subjects of the second division, after they have attended the necessary qualifying course or courses in that subject—viz., in physiology at any time; in anatomy at any time after the end of the first halfsession of their third winter session.
>
> Candidates who have passed their examinations in the subjects comprised in the first and second divisions may be admitted to examination in each of the subjects of the third division after they have attended the necessary qualifying course or courses in that subject—viz., in pathology at any time after the end of the third summer session in the case of those students who begin the medical curriculum in October, and at the end of the fourth summer session in the case of those students who begin their medical curriculum in May; and in materia medica at any time after the end of the fourth winter session: provided always that candidates may be admitted to examination in practical pharmacy, and also the physical, chemical, and botanical characters of medicinal substances, at any examination held after they have attended the necessary qualifying course of instruction in that subject.
>
> Candidates who have passed their examinations in the subjects comprised in the first, second, and third divisions may be admitted to examination in each of the subjects of the fourth or final division after they have attended the necessary qualifying course or courses in that subject—viz., in forensic medicine and public health at any time; in midwifery at any time after the end of the first half-session of the fifth winter session; in practice of medicine and surgery at any time after the end of the fifth winter session; and in clinical medicine (including the subject of the diseases peculiar to women) and clinical surgery at the end of the fifth year of study.

The Examination Committee, after considering these sections, came to a resolution that they were not in accordance with the terms of the thirteenth recommendation on professional examination adopted by the General Medical Council on June 9th, 1896, which recommendation "suggests that a percentage of not less than 60—supposing that the pass requirement be 50 per cent.—should exempt from re-examination in such subject."

The PRESIDENT said that before they considered this matter he would like to express his wish that the resolution of the Examination Committee should not be entered upon the minutes in the form in which it stood, as the reference in it was misleading and historically inaccurate. He thought it was for the members of the Examination Committee to withdraw what was a mistaken reference.

The reports bearing on the subject of the proposed new Edinburgh ordinance, with the exception of the resolution referred to by the President, were then entered in the minutes.

Dr. MACKAY thereupon moved that the Council should adopt the report of the Education Committee to the effect that "the changes embodied in the proposed new ordinance of the University of Edinburgh are in accordance with the

Board. Public scavenging in part of the district is carried out by direct labour and in the rest by contractors, and the report compares the two systems to the advantage of the former. There is special need for the provision of a dust destructor and for the abolition of existing "tips" for refuse. The elementary schools of the district present many grave sanitary defects. The isolation hospital accommodation is limited and no attempt is made to isolate cases of scarlet fever. In dealing with the latter it is the custom of the sanitary authority to give free supplies of preparations of eucalyptus oil for inunction. The report contains an account of the local incidence of the principal infectious diseases in Ebbw Vale during the last five years. The infantile mortality-rate, in view of the general character of the district, cannot be considered exceptional: in the five years reviewed it has ranged between 125 and 169 per 1000 births. Dr. Farrar strongly urges the advantage of combining a series of districts in the neighbourhood, which are conveniently linked by railway communication, for the purpose of securing a medical officer of health who would be able to give the whole of his time to the supervision of the sanitary condition and administration of the areas under his charge.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

The Port of London.—The Aliens Act, 1905, which came into operation at the commencement of 1906 has apparently worked smoothly in the Port of London during its first year of operation. By the provisions of this Act any ship conveying more than 20 alien steerage passengers is an "immigrant" ship. This, at least, is the number fixed by the Secretary of State at the present juncture. During 1906 the total number of passengers arriving in the Port of London who were liable to examination under the Aliens Act was 14,939 and out of these a certain number were found to be "undesirable" on medical grounds and were refused leave to land. With reference to plague, it appears that the French Government now insists upon the destruction of rats by means of a special apparatus in the case of ships coming from a port regarded as being "infected" with plague or having called at such a port, and in the case of ships having taken on board more than 50 tons of merchandise coming directly from a country considered to be "infected" with plague. These regulations apply even to ships which have already discharged the whole of their cargo in one or more foreign ports. In Great Britain destruction of rats is only required when plague has occurred either in persons or in rats on board ship. With reference to cockle-borne enteric fever it is gratifying to find that the corporation has apparently succeeded in preventing the laying down of cockles taken from the Maplin sands in the sewage-polluted water of Leigh Creek, where they are placed to "cleanse" themselves from the gritty sand which collects in their branchiæ and other parts while on the sands. Some interesting analyses of Thames water from Teddington to the Nore have recently been made by the City analyst, but, as a matter of fact, they do not add much to the knowledge which we already possess as the results of chemical analyses made by Royal Commissions in former years and of the work done in a bacteriological sense by Dr. A. C. Houston for the present Royal Commission on Sewage Disposal and for the London County Council. The samples dealt with by Dr. Herbert Williams in his current annual report were all taken, in order to insure uniformity in comparison, during the last one and a half hours of ebb tide—i.e., during the period of greatest concentration. The samples show, what must obviously be the case, that the water coming over Teddington Weir is already polluted. The fact that it receives between Oxford and Teddington either directly or indirectly the sewage effluents of the valley of the Thames is sufficient to account for this fact and the remarkable circumstance connected with the occurrence is that the population of London drinks the water from this source, after filtration, with, in so far as water-borne diseases are concerned, almost, if not quite, absolute impunity. Between Teddington Weir and London Bridge the analyses show some increase in pollution, a fact which may be perhaps explained by the circumstance that the sewage of effluents of Richmond, Kew, and Sheen, as well as storm outfalls from the main intercepting sewers of the London County Council, discharge into this portion of the river. It is well to remember in connexion with these storm outfalls that in certain circumstances the liquid discharged therefrom may be almost crude sewage. At Greenhithe the river has received for the last five miles of its course the effluent from the Barking and Crossness outfalls—i.e., some 250,000,000 gallons daily—but ere Gravesend is reached the degree of pollution is only about the same as that found at Greenwich. It is stated that the effluent from the Leigh sewage outfall near Southend is much more impure than that from Barking, where, be it noted, precipitation and subsidence have alone been resorted to. Some details as to the installation at Leigh would have been instructive, as we seem to have read somewhere that a very considerable sum was spent upon a biological process. But one of the worst offenders of all the towns along the Thames estuary would appear to be Southend, where, according to the report before us, "crude sewage containing masses of human excrement was pouring out in great volume and the odour given off was extremely offensive." Moreover, "the stream of sewage could be distinctly traced for nearly a mile by the scum visible upon the surface of the water as well as by floating human excrement." The general conclusion at which Dr. Williams arrives is that, although there is a considerable amount of sewage entering the river Thames and river Medway, the general condition of the water within the district of the Port of London sanitary authority "cannot be considered as being in a state of serious pollution." It may be added, too, that Southend intends to purify its sewage at a cost of about £150,000. In the matter of the importation of food Dr. Williams states with reference to the large quantities of boned meat and casks of sausage meat that none of it could be determined to be unsound and consequently it had to be passed for human consumption, but he adds that in the case of meat which is cut up into small pieces there is no means of determining that it has not come from animals the subject of disease in some form or other, nor is there any sufficient guarantee that such meat has been derived from only those animals which in this country we are accustomed to devote to human food. Certain consignments of "blown" tins were condemned. Suggestions were made by Dr. Williams during the year for the amendment of the Merchant Shipping Act, 1906, such suggestions being mainly directed to the necessity for the plans of all ships built in any port being submitted to the medical officer of health of such port for approval as regards the adequacy of cubic space, &c. While we entirely concur in the desirability for improvement in this respect it appears to us that to submit the plans of vessels built in small ports to the local medical officer of health would lead to a great diversity in the requirements and that some definite and improved standards had better in the first place be laid down for general guidance.

Borough of East Ham.—Dr. G. Sowden does not regard the provision of a municipal milk depôt as the panacea for a high infantile mortality. Such institutions are useful, but for his part he would prefer to spend the money available upon the employment of a lady health visitor. As a result of investigation into infantile diarrhœa in East Ham during the months of August and September last it was found that 78 per cent. of such mortality occurred in children fed either wholly or partially on cow's or condensed milk, while out of 98 deaths from diarrhœa only five children were entirely breast-fed. Dr. Sowden thinks that it is insanitary house conditions which are very largely responsible for deaths from infantile diarrhœa. He points out that condensed milk as purchased is nearly sterile and that, if so, seeing that 40 per cent. of the deaths from diarrhœa are in children fed on condensed milk the pollution must have taken place in the home. He adds that as a tin of condensed milk usually lasts several days, and that during this time it is not infrequently left uncovered and exposed to dust and flies, its contamination is not a matter for surprise. What is necessary is the diminished use of condensed and cow's milk and more breast-feeding, together with greater cleanliness in the children and their surroundings. The remedy for infantile diarrhœa is, Dr. Sowden urges, the encouragement of breast-feeding and not, as is done by municipal milk depôts, the encouragement of artificial feeding. It should, however, be added that many of the existing milk depôts quite accept this position and only assent to the use of sterilised milk as a *pis aller* when the mothers cannot for one or another reason suckle their offspring. Elsewhere in his report Dr. Sowden furnishes some interesting data relative to the use of condensed milk. Such milk is divided into condensed whole milk—i.e., milk containing the whole of its cream—and condensed skim milk from which practically the whole of the fat has been removed. This latter is popularly known as "Starvation Brand." Investigations in East Ham showed that in eight

NOTES UPON HEALTH RESORTS.

THE BRINE BATHS OF DROITWICH.

DROITWICH was the scene of an interesting ceremony on Saturday, June 1st, on the occasion of the opening of extensions to the world-famous brine baths. It speaks well for the reputation of this quaint, restful place as a health resort that the number of visitors undergoing treatment there steadily increases year by year, and the little borough has moved with the times and, determined not to be outstripped by continental spas, has made a praiseworthy attempt to provide for its visitors improved accommodation and to increase such comforts as minister to the needs of those particular cases which are benefited by saline bath treatment. The class of patient to which Droitwich appeals most includes sufferers from muscular rheumatism, sciatica, and chronic gout, and there can be no doubt that these and others gain relief by a course of warm natural brine baths. The waters of Droitwich enjoy the distinction of being the strongest natural brine found in Europe. The total salts amount to no less than 50 ounces per gallon, which is ten times as much as is contained in a gallon of sea-water. Common salt, however, is not the only constituent, for there are present also sodium sulphate, magnesium chloride, sodium iodide, and calcium sulphate. Droitwich brine is richer in salines than even the waters of the Dead Sea. Suitably diluted the water acts as a purgative saline when taken internally. Further, Droitwich brine is decidedly radio-active, or at least yields a gas on boiling which exhibits marked radio-active effects. It seems probable that radio-activity is an important factor in balneo-therapeutics and may possibly account for the therapeutic effects of natural water being so marked, while frequently waters artificially prepared are not analogous in their action.

At the opening ceremony referred to an interesting account of the history of Droitwich was given by the town clerk. It appears that Droitwich, under the name Salinæ, was a town of considerable importance in the time of the Romans, but the first record of the manufacture of salt is in A.D. 816, when Kenulph, King of Mercia, endowed the great church at Worcester with ten salt furnaces at Droitwich. At this time the town was called Wyche, from the Scandinavian "wic," a shallow bay for the evaporation of sea-water, and hence any place where salt is manufactured. The prefix "droit" was given by Edward III., the word signifying the granting of a royal assent or right to manufacture salt in the town. The therapeutic effects of an immersion in Droitwich brine were apparently first observed during the cholera visitation of 1832, certain sufferers having been put into the heated brine because no other hot water happened to be available. In 1836 the Royal Brine Baths were opened and since that time a very large number of patients suffering from rheumatism, sciatica, gout, and nervous disorders have sought relief at Droitwich. The baths have now grown to the dimensions of a continental spa, hotel accommodation has been increased and improved, and every effort is being put forward to make the place attractive to the visitors. The extensions to the brine baths, known as St. Andrew's Brine Baths, which were formally opened by the Earl of Coventry, Lord Lieutenant of the county of Worcester, were decided upon by the late Mr. Thomas Cobbett, but on his death over a year ago the work was taken in hand by the present trustees of the estate, Lord Cobham and Mr. J. W. Willis Bund. The additions consist of an enlarged entrance hall, lounge, waiting rooms, and a new series of ladies' baths, all well planned, substantially built, and conducive to the comfort of the patient. In addition there are two large swimming baths, one for ladies and one for gentlemen. "Swimming baths" is, however, hardly the correct term to apply, since so buoyant is the water that it is impossible to swim in it, and any effort to swim terminates in a few futile kicks of the legs in the air. In the erect position the patient sinks to about the level of his armpits. In treatment by immersion the patient's body is kept under the brine by means of bars of wood placed across the bath. The temperature is regulated by means of steam which is turned directly into the brine.

Amongst those present at the opening ceremony on Saturday were several medical men from London and the provinces who were entertained at luncheon in the Salters' Hall by the mayor (Councillor C. J. Pond) and corporation. Appropriate speeches were made by the Mayor, Lord Cobham, Mr. Harmsworth, M.P., and Dr. F. de Havilland Hall. The last-named gentleman proposed the toast of "Success to Droitwich," and he expressed the hope that the day's proceedings would be the means of impressing upon the medical profession that there were no brine baths of the same kind anywhere in Europe or indeed anywhere else in the world. The toast "The Medical Profession" was proposed by Mr. Harmsworth and was replied to by Dr. G. W. Hamilton Cumming and Mr. E. Shirley Jones. A conversazione held in the Salters' Hall in the evening brought a very pleasant and successful day's proceedings to a close.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary Circumstances and Administration of the Ebbw Vale Urban District, with special reference to the Prevalence of Infectious Diseases therein, by Dr. R. A. FARRAR.[1]—Dr. Farrar gives some interesting particulars regarding housing questions in Ebbw Vale, a Monmouth district with a population of about 25,000, occupied mainly in mining, smelting, forging, and similar works. Not long ago this district was conspicuous for the squalor and insanitary condition of most of its house property, and many dwellings and their surroundings are still in a very objectionable state. But recently well-planned and well-built artisans' houses have been erected at the rate of between 100 and 200 in each year and at present there are no signs of diminution in building activity. The competition for new houses is keen and they are taken up as fast as they can be built. The principal credit for the great alteration thus effected is due to the establishment of building clubs among persons employed by the Ebbw Vale Steel, Iron, and Coal Company. The company, which employs about 7000 workmen, has financed the building clubs by advancing the necessary money for building (at 4 per cent.), and has also in most instances leased the sites at a very moderate ground rent and given stone free for the labour of quarrying it. The company holds the title deeds of houses built by the clubs until such time as they become by purchase the absolute property of the members renting them. The usual arrangement is to pay 3*s*. a week to the sinking fund in addition to the rent of the house, which is usually about 6*s*. a week. Various provisions are made to meet delays in payment and to enable members to tide over periods of sickness. The clubs are limited to a membership of 20 and about 17 have so far been formed. An appendix to the report gives in full the rules which are adopted. Dr. Farrar reports favourably on the character and sanitary condition of these building-club dwellings. Houses rented at 6*s*. a week contain, on the ground floor, a sitting-room, front and back kitchens, a bath-room with hot and cold water laid on, and a pantry, and upstairs there are three bedrooms. Most of them have garden plots and the report recommends that cultivation of these plots should be insisted upon as a condition of tenancy. In addition to the above building clubs various building societies are doing a considerable business in the district. One of these societies makes a speciality of houses built of cement-concrete blocks ten inches thick with a hollow space within of three and a half inches. Houses built of these blocks are warmer and drier than those built of solid brick or stone, and the material, made from waste slag, is found to be cheaper than brick. There are evidently many conditions in Ebbw Vale to which serious objection must be taken by the sanitarian, but it is satisfactory to note that in some of these matters the district is passing through the same kind of transition stage as can be seen in the case of its housing. The public water-supply is being supplemented by the construction of a new reservoir of 180 million gallons capacity and the district will soon participate in the extensive works of sewerage now being carried out by the Western Valleys Sewerage

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[1] London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. No. 255. Price 7*d*.

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VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8940 births and 4442 deaths were registered during the week ending June 1st. The annual rate of mortality, which had steadily declined from 17·9 to 14·9 per 1000 in the eight preceding weeks, further fell to 14·5 in the week under notice. During the first nine weeks of the current quarter the death-rate in these towns averaged 16·0 per 1000, the rate in London during the same period being 15·5. The lowest annual death-rates in the 76 towns during the week were 3·5 in Hornsey, 5·8 in Rotherham, 7·1 in Handsworth (Staffs.), 7·6 in East Ham, and 7·8 in Croydon; in the other towns the rates ranged upwards to 20·2 in Oldham, 20·4 in Sunderland, 22·0 in St Helens, 25·7 in Bolton, and 35·3 in Middlesbrough. The 4442 deaths in the 76 towns showed a further decrease of 136 from the number in the preceding week, and included 474 which were referred to the principal infectious diseases, against 507 and 474 in the two previous weeks; of these, 201 resulted from measles, 111 from whooping-cough, 48 from diphtheria, 47 from diarrhœa, 45 from scarlet fever, and 22 from "fever" (principally enteric), but not any from small-pox. The deaths from these principal epidemic diseases were equal to an annual rate of 1·5 per 1000, the rate from the same diseases in London being 1·4. No death from any of these epidemic diseases was registered last week in Southampton, Norwich, Wolverhampton, Swansea, York, Devonport, or in six other of the 76 towns; the annual death-rates therefrom, however, ranged upwards to 3·0 in Tottenham, 3·3 in Portsmouth, 3·9 in Hanley, 4·3 in Sunderland, 5·2 in Grimsby, 9·1 in Bolton, and 9·2 in Middlesbrough. The 201 fatal cases of measles showed a further slight decline from the high numbers in the two preceding weeks; the death-rates from this disease ranged upwards to 2·7 in Sunderland, 3·0 in Portsmouth, 3·1 in Hanley, and 7·7 in Bolton and in Middlesbrough. The deaths from whooping-cough, which had declined from 176 to 116 in the four preceding weeks, further fell to 111 during the week under notice, the highest death-rates from this cause being 1·1 in Huddersfield, 1·2 in West Ham, Walthamstow, and Wigan, 1·3 in Salford, and 2·2 in Grimsby. The fatal cases of diphtheria, which had been 41 and 46 in the two preceding weeks, further rose last week to 48 and included 14 in London and three each in Bristol, Birmingham, and Sunderland. The deaths from diarrhœa, which had been 51 in each of the two preceding weeks, declined to 47 in the week under notice, the greatest proportional mortality being recorded in Walsall and St. Helens. Scarlet fever caused a death-rate of 1·4 in King's Norton, and "fever" a rate of 1·5 in Grimsby. No fatal case of small-pox was registered in any of the 76 towns; and no cases of this disease were under treatment in the Metropolitan Asylums Hospitals during the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2658, 2679, and 2732 at the end of the three preceding weeks, had further risen to 2824 at the end of the week under notice; 437 new cases were admitted during the week, against 349, 363, and 382 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had declined from 412 to 230 in the eight preceding weeks, further fell to 192 last week, and were 20 below the corrected average in the corresponding weeks of the previous five years. The causes of 37, or 0·8 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, West Ham, Newcastle-on-Tyne, and in 64 other of the 76 towns; the proportion of uncertified deaths, however, again showed a marked excess in Liverpool, Birmingham, Sunderland, and St. Helens.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 19·7 and 17·5 per 1000 in the two preceding weeks, further declined to 16·7 in the week ending June 1st, but exceeded the rate in the 76 English towns by 2·2. The rates in the eight Scotch towns ranged from 9·3 in Aberdeen and 12·0 in Dundee to 18·6 in Glasgow and 20·5 in Greenock. The 580 deaths in the eight towns showed a decrease of 27 from the number in the preceding week, and included 91 which were referred to the principal epidemic diseases, against 112 and 92 in the two preceding weeks. These 91 deaths were equal to an annual rate of 2·6 per 1000, which exceeded by 1·1 the rate from the same diseases in the 76 English towns; they included 38 which were referred to whooping-cough, 24 to "fever," 14 to diarrhœa, seven to measles, six to diphtheria, two to scarlet fever, and none to small-pox. The 38 fatal cases of whooping-cough showed a slight decline from the numbers in recent weeks, and included 26 in Glasgow, seven in Edinburgh, and two each in Paisley and in Greenock. The deaths referred to different forms of "fever," which had been 36, 41, and 28 in the three preceding weeks, further declined to 24, of which 20 occurred in Glasgow, two in Leith, and one each in Edinburgh and in Aberdeen; 17 deaths were certified as cerebro-spinal meningitis in Glasgow, two in Leith, and one in Edinburgh. The fatal cases of diarrhœa, which had been seven and nine in the two preceding weeks, further rose to 14 in the week under notice, and included seven in Glasgow, two in Edinburgh, and two in Dundee. Of the seven deaths from measles four were registered in Edinburgh and two in Glasgow, while of the six fatal cases of diphtheria three occurred in the latter and two in the former city. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had declined from 127 to 83 in the four preceding weeks, were 82 in the week under notice, and were 13 below the number in the corresponding week of last year. The causes of 23, or 4 per cent., of the deaths registered in the eight towns during the week were not certified or not stated; the proportion of uncertified deaths in the 76 English towns during the same week did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 26·7 and 25·8 per 1000 in the two preceding weeks, further declined to 23·1 in the week ending June 1st. During the first nine weeks of the current quarter the death-rate has averaged 26·8 per 1000; the mean rate during the same period did not exceed 15·5 in London and 17·7 in Edinburgh. The 173 deaths of Dublin residents registered during the week under notice showed a decline of 20 from the number in the preceding week, and included 13 which were referred to the principal epidemic diseases, against seven and 17 in the two preceding weeks; of these, eight resulted from whooping-cough, four from measles, and one from "fever," but not any from small-pox, scarlet fever, diphtheria, or diarrhœa. These 13 deaths were equal to an annual rate of 1·7 per 1000, the rate during the same week from the principal epidemic diseases being 1·4 in London and 2·6 in Edinburgh. The fatal cases of whooping-cough, which had been eight, four, and ten in the three preceding weeks, declined again last week to eight; while the fatal cases of measles numbered four in the week under notice, having been six, one, and six in the three preceding weeks. The 173 deaths from all causes included 25 of children under one year of age and 55 of persons aged upwards of 60 years; the deaths of infants showed a decline, while those of elderly persons considerably exceeded the number in the previous week. Five inquest cases and six deaths from violence were registered; and 76, or nearly 44 per cent., of the deaths occurred in public institutions. The causes of four, or 2·3 per cent., of the deaths in Dublin last week were not certified; only one death in London was uncertified, while in Edinburgh the proportion was 6·8 per cent. The 156 deaths registered in Belfast during the week under notice included 14 which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: J. E. Robinson to the *New Zealand*, on recommissioning; W. Hackett to the *Goliath*, on recommissioning; A. G. W. Bowen to the *Canopus*, on recommissioning; and E. St. M. Nepean to the *Niobe*. Staff Surgeons: M. L. B. Rodd and A. J. Laurie to the *Mars*, on recommissioning. Surgeons: W. F. Archibald to the *Goliath*; T. A. Smyth to the *Canopus*, on recommissioning; J. C. F. D. Vaughan to the *Hebe*; A. C. Renwick to the *New Zealand*, on recommissioning; E. B. Kenny to the *Indus*; and J. O'Hea to R.M.A., Eastney.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon Henry John Hadden has been placed on the Retired List, at his own request *(dated June 2nd, 1907)*.

ROYAL ARMY MEDICAL CORPS.

Captain W. H. S. Nickerson, V.C., lately serving in West Africa, has been appointed to the Dublin district for duty.

INDIAN MEDICAL SERVICE.

The services of Captain S. H. L. Abbott have been placed at the disposal of the Government of India for plague duty in the Punjab.

The King has approved of the transfer to the temporary half-pay list of the under-mentioned officers: Captain Stewart Ranken Douglas (dated Sept. 16th, 1905); and Captain Harold Budgett Meakin (dated March 23rd, 1907).

The King has also approved of the retirement from the service of the undermentioned officers: Lieutenant-Colonel Osborne Henry Channer (dated April 15th, 1907); Major Wilfred Ernest Arbuthnot Armstrong (dated March 12th, 1907); and Lieutenant John Henry Gill (dated March 27th, 1907).

VOLUNTEER CORPS.

Rifle: 6th Volunteer Battalion the Royal Scots (Lothian Regiment): Arthur Julian de Spiganovicz to be Surgeon-Lieutenant (dated March 1st, 1907). 2nd Volunteer Battalion the East Lancashire Regiment: Surgeon-Major W. Deans is granted the honorary rank of Surgeon-Lieutenant-Colonel and resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 1st, 1907). 1st Cadet Battalion the King's Royal Rifle Corps: Acting Surgeon J. H. Reynolds, V.C. (Lieutenant-Colonel, retired pay), resigns his appointment (dated April 22nd, 1907). 1st Dumbartonshire Volunteer Rifle Corps: Surgeon-Lieutenant F. Gracie to be Surgeon-Captain (dated April 22nd, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Cadet Corps (St. Michael's, Woolwich) attached to the Eastern Command: Woolwich Companies: The announcement of the resignation of his commission by Captain J. P. Ekins is cancelled.

ROYAL ARMY MEDICAL CORPS REGULATIONS.

New regulations for admission to the Royal Army Medical Corps have now been issued. Candidates who have been specially employed in consequence of a national emergency, either as an officer or in a position usually filled by an officer, will be allowed to reckon such service towards retired pay and gratuity, and if over the regulation limit of age at the date of commencement of the competitive examination shall be permitted to deduct from their actual age any period of that service if such reduction will bring them within the age limit.

THE KING'S LEVÉE: HEROES OF THE INDIAN MUTINY.

At the Levée held at St. James's Palace on June 3rd by the King a number of naval and military officers and civilians who served in the Indian Mutiny were in attendance in order that His Majesty might mark the fiftieth anniversary of that campaign by receiving survivors. Field-Marshal Lord Roberts in introducing the survivors of the siege of Delhi did so as the leader and senior of them. The Mutiny campaign, it may be mentioned, yielded the greatest number of Victoria Crosses of any war, the total gained being 182, as against 111 for the Crimea and 78 for the last South African war. The following medical officers who took part in the siege of Delhi and the defence and relief of Lucknow attended the Levée: Deputy Surgeon-General J Fairweather, Deputy Surgeon-General C. A. Innes, Surgeon-Major H. M. Greenhow, and Brigade-Surgeon H. E. Busteed, C.I.E.

THE ORDER OF ST. JOHN OF JERUSALEM.

The annual commemoration service of the Order of St. John of Jerusalem in England will be held at St. John's Church, Clerkenwell, on June 24th, at 2.15 P.M. The service will be followed by a general assembly of members and associates of the Order at St. John's Gate.

Correspondence.

"Audi alteram partem."

UNION OF MEDICAL SOCIETIES.

To the Editors of THE LANCET.

SIRS,—The following societies have decided to amalgamate, viz.:—

	Established.
Royal Medical and Chirurgical Society	1805
Pathological Society of London	1846
Epidemiological Society	1850
Odontological Society of Great Britain	1856
Obstetrical Society of London	1858
Clinical Society of London	1867
Dermatological Society of London	1882
British Gynæcological Society	1884
Neurological Society	1886
British Laryngological, Rhinological, and Otological Association	1888
Laryngological Society of London	1893
Dermatological Society of Great Britain and Ireland	1894
British Electrotherapeutic Society	1901
Therapeutical Society	1902

The Otological Society of Great Britain and Ireland (1899) will give its decision on June 10th. His Majesty the King has graciously granted the petition of the above societies that the amalgamation shall be known as the Royal Society of Medicine. The new Society will be housed at 20, Hanover-square. The balance of assets over liabilities is more than £37,000. The estimated balance of income over expenditure is about £1000. This estimate is based on subscriptions actually promised. As answers have yet to be received from 700 persons entitled to join the new society, and as many members of the profession who are not members of the amalgamating societies and therefore are not entitled to be proposed for election until the society has been constituted, have expressed their desire to join, the balance of income over expenditure will be increased. The first meeting of the Fellows of the Royal Society of Medicine will be held at 20, Hanover-square, on Friday, June 14th, at 5.30 P.M. for the purpose of adopting by-laws and electing the council and honorary officers.

We are, Sirs, yours faithfully,

ARTHUR LATHAM.
HERBERT S. PENDLEBURY.
Honorary Secretaries of the Committee of Representatives of the Societies.

June 4th, 1907.

To the Editors of THE LANCET.

SIRS,—The recent amalgamation of several of the medical societies under the title of the Royal Society of Medicine is an event with regard to which many members of the profession will rejoice. It also seems to me to be an occasion for the adoption of certain small reforms the desirability of one of which at least has been forcibly impressed upon me by the receipt of a circular of a society which will henceforth form one of the sections of the Royal Society of Medicine. In this circular a list is given of names proposed by the council of the society for election as officers and members of council of the section for the year 1907-08. In this list is noticeable what would appear to be an invidious distinction—that is to say, that amongst the names of 29 gentlemen one alone appears without any title at all. On further perusing the list two other well-known surgeons are also found to be destitute of medical titles, though in this case evidence is given of their having received honours—eminently well won—

from the King. The explanation of the whole matter is evidently that university titles, medical and surgical, are alone recognised. Surely this is not desirable. What have the Presidents of the various Colleges of Physicians and Surgeons to say on the matter? (If I remember rightly a similar course is pursued with regard to the official issue of the names of the successful candidates for admission into the Royal Navy and Army Medical Services.) It is possible that a member possessing the qualifications of F.R.C.S. Eng. and M.D. Brussels would be designated in these lists by the latter and not by the former title, which, without wishing in any way to disparage the examination for the M.D. Brussels, seems to be absurd. It is to be hoped that the Royal Society of Medicine will inaugurate a little more liberal and a little less invidious spirit. Let me add that I have no personal interest whatever in the matter, having, in fact, been educated at a university and not possessing a Fellowship of any of the Royal Colleges.

I am, Sirs, yours faithfully,
London, June 3rd, 1907. LIBRA.

THE NEW VACCINATION ORDER.

To the Editors of THE LANCET.

SIRS,—The Local Government Board has just issued a General Order about vaccination to "boards of guardians, public vaccinators, and all others whom it may concern," which, when working in conjunction with Mr. Burns's new Vaccination Bill, which passed the second reading in the House of Commons on Friday, May 24th, virtually means the repeal of the Vaccination Acts. Let us see what will be the effect of this new Order and this new Bill. Let us take the new Bill first, which when it becomes law will allow the so-called conscientious objector to simply make a statutory declaration before a commissioner for oaths, or justice, and pay 1*s.* or 1*s.* 6*d.*, and thus be exempt from the Act. But this is not all. For when a baby is three months old the vaccination officer, according to the new Order, must notify the parent of the date when the child will be four months old, and tell him that if he does not receive a legal exemption or a certificate within seven days from that date, the public vaccinator will be instructed to call and offer to vaccinate. This means that the vaccination officer is to write and warn the people that they have only another month in which to obtain their exemption, and so they had better bestir themselves. In other words, the vaccination officer is to stultify himself by warning the people not to do what he was placed there originally to enforce. Now the conscientious objector is really a very small minority, although perhaps somewhat a noisy one, but he does not give any real trouble, and in spite of him the people are to-day better vaccinated than ever they have been. There are, however, a great number of people, less earnest than the conscientious objector, "who do not believe in it," and who "think it a shame to cut the poor little mite about," and a very great number who think it "nonsense" and a "lot of trouble." These people take it as a matter of course and submit, but when shown how easy it is to become exempted they will willingly make the declaration and so save themselves trouble and thus become a danger to the rest of the public. A good many of the public believe that small-pox has been, and can be, kept away by sanitation, &c. Now, if this were the case scarlet fever, which is a very similar disease as regards its infectious properties, would be as rare a disease as true small-pox. This is, however, very far from being the case, and epidemics of scarlet fever are about as common now as ever they used to be.

In sending out the new Order the Local Government Board incloses a circular in which it, in a way, apologises for introducing the Order. It excuses itself chiefly on the ground of economy, and yet in the same breath it says that the remuneration was not excessive. The letter reads:—

> The committee found that, apart from the great increase in the number of operations performed since 1898, the principal factor in the increased cost of public vaccination has been the increase in the fees payable to public vaccinators. But, as the committee pointed out, some increase in the remuneration of the public vaccinators was inevitable, in view of the additional duties which were imposed upon them by the provisions of the Act and of the Vaccination Order, 1898. The committee thought that having regard to the work required the remuneration for primary vaccination since the Act of 1898 came into operation had in many cases not been excessive.

Yet, in spite of all this, it has decided to reduce the fees for primary vaccination by half. This, however, is only a minor point when viewed from the standpoint of public health. It does not appear to me that it will matter greatly to the public vaccinator whether his fees are big or little, as there will be precious few to collect under this *régime*.

There can only be one result if this Order is long in force or the Bill becomes law, and that is that within the next decade the country will be put to the expense of a real small-pox epidemic. But still we must submit, as it is one of the many mandates with which the present Government seems to be over-burdened.—I am, Sirs, your obedient servant,

Chiswick, May 28th, 1907. ARTHUR D. DUCAT, M.B. Lond.

SANITARY AUTHORITIES AND SANITARY OFFICERS.

To the Editors of THE LANCET.

SIRS,—Dr. J. H. Garrett's able and expert critique of modern sanitary government in THE LANCET of May 25th, p. 1447, shows up the defects of the present system. There is, however, another side to the question. The essence of British government is constitutional democracy; let the people rule themselves and find out what they want and find out how to get it. If they blunder on the way no matter; experience teaches. So it is in the matter of public health. Let the people wallow, so says our Constitution, in their insanitary streets and houses, their polluted water- and food-supply, their filthy habits, and general ignorance. They will get their experience; they will compare it with that of their neighbours who take thought; they will have the power to adopt such methods as are proved good and to reject such as are proved bad. They have suffered meanwhile; the helpless in their midst have suffered; but by these very sufferings, altruistic and personal, their responsibility and powers have been realised, and they know they have only themselves to blame. The result is scientifically a compromise—an essentially British institution. Take Dr. Garrett's second alternative—a great central department of government with plenary executive powers over the whole country—a sanitary despotism. Even were this despotism benevolent it would take from the local laity all responsibility and all stimulus to help; it would throw on the central department the burden of each local grievance; it would give fuel for a political conflagration of the most dangerous character. The ten years' story of Indian plague has taught this lesson all too well. The result is lethargy or revolution.

But Dr. Garrett's first suggestion, a revised version of the findings by the Select Committee on the Housing Bill, is more constitutional. As sanitary authority, the committee proposes county councils, Dr. Garrett proposes more uniform districts with committees formed out of existing district councils. I would propose city and county councils, the latter standardised down to areas of a quarter to a half million inhabitants, with local sanitary committees corresponding to the managers of schools. The committee again focus attention on the councils, Dr. Garrett on the officers, and Dr. Garrett would give the appointment of local officers to the Local Government Board. But the Constitution demands that they who pay the piper shall call the tune and that local officers shall be locally appointed. I would suggest appointments by the city and standardised county councils out of a standing list of candidates approved by the Board. Dr. Garrett considers the local council as of secondary importance; I beg to differ. The medical officer of health may on occasion be the leader; he should, as a rule, be the guide. The power and responsibility must always rest with his council and he will effect his object best by convincing them of the lessons of adversity in their own or their neighbours' experience rather than by seeking powers to lead where they will not follow.

Official progress must, then, be stimulated by allowing complaints to be made over the heads of the sanitary authorities to the Local Government Board; by publishing broadcast and outspokenly for the United Kingdom—as by us for our counties—the results of each year's work, not sparing the criticism afforded by figure and fact; and by a very large increase in the Local Government Board inspectorate who should be able to keep themselves in actual touch with the sanitary administration of every part and give sympathy and personal support to every medical officer of health in his now isolated "Aussichtsturm." We are far too much tempted to think of our district as a physician thinks of his patient and consider that the treatment and responsibility for the result are in our hands. This error is a stone wall against which many medical officers of health run their heads and those of their pupils. I beg to raise a voice for constitutional democracy and its application to the sanitary branch of our profession. I am, Sirs, yours faithfully,

FRANCIS FREMANTLE.

Chester-street, S.W., May 25th, 1907.

PRESENT MEANS OF COMBATING SLEEPING SICKNESS.

To the Editors of THE LANCET.

SIRS,—In the admirable article under the above heading in THE LANCET of Feb. 2nd last by Dr. A. Kinghorn and Dr. J. L. Todd there is a point which, I think, may fairly be raised.

In reference to gland palpation it is said: "We have therefore an exceedingly simple method of detecting early cases of human trypanosomiasis which may be applied by almost any intelligent person." This is true as it stands, but it needs the qualification that the stage previous to considerably enlarged glands may well permit the passing of cases even in the hands of the profession. This is rendered the more difficult by the fact that a large percentage of natives from uninfected districts are found on palpation to have slightly enlarged neck glands (viz., 43 per cent. in my hands). I am, Sirs, yours faithfully,

SHEFFIELD NEAVE, M.R.C.P. Lond.

Kambové, Congo Free State.

PULMONARY COLLAPSE AND TUBERCULOSIS: A SUGGESTION FOR PHYSICAL EXAMINATION OF THE THORAX.

To the Editors of THE LANCET.

SIRS,—A short article by Dr. William Huggins on Pulmonary Atelectasis in Adults recently designed to demonstrate that if percussion of the chest precedes palpation it is not unusual to find temporary collapse at the apex of one or other lung. At the time this paper appeared the fact was a familiar one to myself since for many years I had been accustomed to percuss the chest before deep breathing was performed, but so little, if any, attention has been paid to this point and its importance is so great that I am emboldened to bring it forward once again.

The facts are as follows. In a certain proportion of healthy chests examined during quiet breathing and before deep respirations have been taken the apex of the lung is found temporarily collapsed. The signs of this collapse are generally impairment to percussion and feeble breath sounds, these signs disappearing on deep breathing with the production of the dry crackling sounds of expanding lung. The area affected is generally the supraclavicular fossa in front, extending over the shoulder to the supraspinous fossa behind. In more marked cases the collapse may remain for a while in spite of deep breathing and may give rise to deficiency of movement at the affected apex. I have never seen the condition in children (in whom apical phthisis is rare), but closely analogous to it is the temporary collapse of the middle lobe which sometimes occurs in childhood. This, in my experience, is always the accompaniment of bronchial catarrh; it generally persists for weeks and sometimes, I think, becomes permanent and leads to bronchiectasis of the affected lobe. The apical collapse of adults is not necessarily the result of bronchial catarrh, it often occurs in healthy lungs. An estimation of its frequency is very difficult to make, but I believe it may be found in at least from ½ to 1 per cent. of the lungs examined in a hospital clinic.

And now, granting its occurrence, what is its importance? Firstly, it may give rise to errors of diagnosis. Those who palpate before they percuss may find temporary limitation of movement at one apex which may induce an unwarranted suspicion of phthisis. Those, too few in number, who percuss first will find an impairment at one apex whose disappearance after deep breathing may puzzle them unless they are familiar with this condition. The practitioner who omits to demand deep breathing during palpation may find that the lung is not expanded when he comes to auscultate, and crepitations are heard which closely simulate those of early phthisis. These may be temporarily heard in some cases even after deep respiration.

The second point of importance in this apical collapse is the relation it may bear to the localisation of apical phthisis. In a most interesting and instructive paper read by Dr. Arthur Keith before the London Hospital Medical Society in October, 1903, the question, "Why does phthisis attack the apex of the lung?" was discussed from the anatomical standpoint. Dr. Keith shows clearly, among other valuable facts, that the apex of the lung is the part most difficult to ventilate, only slight direct expansion being possible through movements of the first and second ribs, the main expansion being indirect and brought about by movements of the diaphragm. Dr. Keith insists that the diaphragm becomes functionally less active as adult age is reached; he points out that in most of us the lungs are only used to the minimum of their capacity and, he says, "when a shutting-down process sets in the apex is the first to feel it." These contentions of his as to the inefficient expansion of the apex of the lung in adult life are borne out clinically by the occurrence of collapse as already described, and, since this is the main point in which the apex differs from the remainder of the lung, we may conclude that it has much to do with the apical deposition of tubercle. Deficient expansion means sluggish blood and lymph circulation.

And now, having considered shortly the bearings of pulmonary apical collapse on the diagnosis and etiology of phthisis, it behoves us to inquire how our knowledge on these points may be most usefully applied. First, I would like to suggest the advantage of modifying the order of our examination of the lungs. I am persuaded myself, and would suggest it to the consideration of others, that the order—inspection, percussion, palpation, is preferable to the old order—inspection, palpation, percussion. Palpation must be accompanied by deep respiration and I am persuaded that it is best to percuss before this and, if necessary, afterwards as well. The second lesson I would impress upon myself and others is the importance in young adult life of overcoming this tendency to apical collapse and through it to apical phthisis. To this end the lungs should be ventilated at least twice daily by deep breathing and, in those leading a sedentary life, I can think of no more convenient means of accomplishing this purpose than the night and morning use of exercisers or light dumb-bells.

I am, Sirs, yours faithfully,

CLIVE RIVIERE, M.D. Lond., M.R.C.P. Lond.,
Senior assistant physician, East London Children's Hospital,
Shadwell; physician to out-patients, City of London
Chest Hospital, Victoria-park, E.

June 3rd, 1907.

THE ESTIMATION OF SUGAR.

To the Editors of THE LANCET.

SIRS,—The estimation of sugar by means of a colour test, as described on p. 1446 of THE LANCET, is not new; but it is of great value, as I have proved by a considerable experience of it. The method was introduced many years ago by Sir William Gowers and will be found duly incorporated in the third edition of my "Index of Symptoms," section 679.

I am, Sirs, yours faithfully,

R. W. LEFTWICH, M.D. Aberd.

Buckingham-gate, S.W., June 3rd, 1907.

CALCIUM CHLORIDE ON ROADS.

To the Editors of THE LANCET.

SIRS,—In your issue of May 25th, under the heading "The Chemicalised Road," you comment on the use of calcium chloride for dust prevention and give expression to fears as to the possible injurious effect of the product. We have used this article ourselves during the past 15 years for the prevention of dust on roads in our own neighbourhood and have never experienced any of the ill effects you name. When motor-cars took possession of the high roads in enormous numbers and the dust became an intolerable nuisance we made careful experiments to ascertain what effect, if any, a weak solution of calcium chloride would have on the feet of animals, rubber tyres, metals, clothes, the skin, and so on. We found it had no injurious effect and consequently strongly advocated its use by the public.

We wish to emphasise the fact that we are not dealing with a strong solution of calcium chloride, but with one sufficiently weakened to keep a road free from dust, and with regard to the suggestion that it may attack iron and other metals, as our calcium chloride is absolutely free from acids, its action on metals is no more deleterious than that of a solution of common salt, which, for generations, has been used without harm on roads in the salt districts. Calcium chloride is a *neutral substance*, contains no tar, oil, grease, or other objectionable matter, and *not only does* not injure but positively preserves the surface of a road. The article in your journal has been copied into other public prints, and, unfortunately, has had the effect of making some people nervous about using calcium chloride on roads. In common fairness to the public, who suffer so much from the ill effects of dust, we trust you will give publicity to the facts mentioned in this letter.

I am, Sirs, yours faithfully,
For Brunner, Mond, and Co., Limited,
Thomas H. Forgan,
Northwich, June 1st, 1907. Managing Director.

*** It is quite clear that the results which we mentioned might and would occur if the solution were of sufficient strength—that was surely implied in the article.—Ed. L

THE LESSONS OF THE OUTBREAK OF SMALL-POX AT METZ.

To the Editors of The Lancet.

Sirs,—Much capital is being made by the National Anti-vaccination League at the present time out of the fact that there has recently been some small-pox in Metz, Germany. The *Vaccination Inquirer* for May contains a long article headed in huge type, "Small-pox in the German Empire—Collapse of the Argument from Germany." The argument is this: Germany is a well-vaccinated country; there is small-pox in Germany; *therefore vaccination is useless.*

As you are aware, Sirs, no official report of the outbreak at Metz has yet been published in this country and the *Vaccination Inquirer* gives no information from which it would be possible (assuming its veracity) to draw any conclusions as to the protective effect of vaccination. I therefore wrote privately to Dr. Pawolleck, State medical officer at Metz, asking him for such information. I have received a reply from him which contains the following facts. 1. Since the end of July, 1906, there have been in Metz and the district 164 cases of small-pox, of which 37 have died. 2. No case has occurred since May 12th, 1907. 3. Of vaccinated children under ten not one has been attacked. 4. Of vaccinated children up to 14 one was attacked and had the disease very lightly and very few pock marks were left. 5. Of unvaccinated children up to 14, 22 were attacked, all of whom were very ill, and 12 died. 6. In the town of Metz itself (which Dr. Hadwen of Gloucester has recently described as "the hot-bed of vaccination tyranny") not one child was attacked. 7. In the garrison and outposts, consisting of 24,000 men, no case of small-pox occurred.

It must be remembered that Metz is a frontier town, which may be assumed, in the absence of evidence to the contrary, to have a considerable French population, and to have extensive intercourse with the other side of the frontier. Also that the German vaccination law was passed in 1874, so that all German subjects who are now over 50 years of age had passed their vaccination and revaccination ages before the law was passed and may therefore all be unvaccinated.

I am, Sirs, yours faithfully,
Dorking, June 5th, 1907. J. D. Rawlings.

THE PORTSMOUTH MEMORIAL TO CHARLES DICKENS.

To the Editors of The Lancet.

Sirs,—It is a well-known fact that Charles Dickens, one of the greatest glories in English literature, whose imperishable writings will ever remain among the world's most precious possessions, strictly desired that no statue should ever be erected to his memory. The wish of such a man, however unreasonable it may appear to be, is bound to be respected for all time, but the borough of Portsmouth, where Charles Dickens first saw the light, has at last resolved to raise a permanent memorial to its illustrious townsman in the shape of a cot in the hospital situated in the parish in which he was born. Failing a statue, no happier object could be conceived than this. To accomplish so noble an aim, however, it will, I hear, be necessary to raise the sum of £500. The first £100, and a little over, is already assured, among the subscribers being some of the most distinguished names in the country. There surely ought to be no great difficulty in raising the remainder of the sum required, and I deem it a special privilege and honour to be permitted by the chief promoter of this memorial to make, through the medium of your influential journal, an earnest appeal to every Dickens lover in the land to further this noble object by sending a subscription, large or small, to Mr. C. Louis de Wolff, the indefatigable honorary secretary of "The Dickens Birthplace Fellowship," 73, Laburnum-grove, Portsmouth.

I am, Sirs, yours faithfully,
St. John's Wood, N.W., June 3rd, 1907. Algernon Ashton.

LARGE VESICAL CALCULI.

To the Editors of The Lancet.

Sirs,—Mr. H. Littlewood's letter regarding large vesical calculi which was published recently in The Lancet recalls to my mind a case that came under my notice some three years ago in which a large stone was removed from the bladder by the suprapubic operation. The calculus when dry weighed 16¼ ounces. I was able to follow up the history of the case for 12 months, but then lost sight of the man. A year after the operation he was in perfect health and had no trouble with his bladder. It is of interest to note that it was only a week or two prior to the operation that the calculus caused him inconvenience such as to interfere with his work.—I am, Sirs, yours faithfully,
June 1st, 1907. J. A.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.[1]

(From our Berlin Correspondent.)

The German Congress of Internal Medicine was held at Wiesbaden from April 15th to 18th, Professor von Leyden (Berlin) being in the chair.

The Treatment of Neuralgia.

Professor Schultze (Bonn) described neuralgia as a disease in which fits of pain of great intensity developed within the sensory nerves and followed their track. The nerves might sometimes show certain pathological alterations, but as a rule such lesions were absent. He enumerated the six following causes of neuralgia. 1. Mechanical action, such as compression and tearing. To this category belonged the adhesions between the nerves and the scar which occurred in the stump left after an amputation. It was remarkable that malignant growths, notwithstanding the adhesions associated with them, seldom produced neuralgia. Gallstone colic and intestinal colic were at present believed to be caused by tearing of the nerves of the mesentery and gall-bladder. 2. Neuritis and polyneuritis. These conditions were exemplified in patients suffering from tabes dorsalis, rheumatism, gout, diabetes, infectious diseases, and alcoholism. Neuralgia when occurring as a complication of malaria and of chills was probably connected with neuritis. 3. Psychical influences, hysteria, and neurasthenia. This category included neuralgia due to occupational neuroses and to over-exertion; degeneration or injury of the affected nerve might perhaps be caused by a toxin produced by over-exertion. 4. Toxins either entering the body from outside or produced within it. Neuralgia associated with constipation was an example of this kind. 5. Arteriosclerosis. The connexion between this condition and neuralgia was, however, not yet explained. 6. Anæmia and chlorosis. In these diseases psychical influences were the determining factors of the neuralgia. Professor Schultze said that the pathological anatomy of neuralgia was very imperfectly known as it was impossible to examine the nerves throughout their whole length. In rheumatic sciatica red discolouration of the nerve and slight adhesions have been sometimes observed together with obliteration of the small vessels within the nerves. In neuralgia following amputations Professor Bardenheuer has met with œdema and hyperæmia and Professor Witzel has found cicatrices adherent to the bone. With regard to the symptomatology, Professor Schultze said that points which were painful on pressure might either be present in neuralgia or not; it was necessary to test not only the classical points but also their surroundings and to avoid the use of too strong pressure at the examination. The painful points must not be found by questioning the patient but by observing the occurrence of responses, such as movements of defence, the expression of the face, or even the pulse-rate. Hyperæsthesia or anæsthesia of the skin was often a symptom of neuritis. The diagnosis of genuine neuralgia, such as neuralgia of the fifth nerve or sciatica, was easy; pathological conditions which were very like neuralgia were the meralgia paræsthetica in the fascia lata described by Bernhard, the Achillodynia, which was caused by inflammation of the bursa mucosa situated in the neighbourhood of the tendo Achillis, tarsalgia and metatarsalgia in the metatarso-phalangeal joint of the fourth toe. Sciatica might be confounded with coxa vara, but the diagnosis between them might be made by radiography; other diseases from which it must be distinguished were morbid conditions of the sacrum, flat-foot, and recurrent lameness. In bilateral sciatica, disease of the cauda equina might be present. Neuralgia of the trigeminus nerve was often a symptom of catarrh of the frontal sinus, especially when cerebral and meningeal symptoms were observed. Hysterical and neurasthenic neuralgia differed from the other forms: (1) by the absence of the classical points sensitive to pressure; (2) by the symptoms depending on psychical causes; (3) by recovery following the use of the most dissimilar remedies; and (4) by the pains not following the track of the nerves. Methods of treatment might be divided into the following four classes: 1. The administration of drugs, such as aconitine, strychnine, &c. 2. Physical methods, such as the application of electricity and heat. Using hot air, Professor Bier successfully treated 12 out of 20 cases which had been sent to him to be operated on. Stretching of the nerve merited consideration in cases of perineuritic adhesions, although this operation was sometimes followed by paralysis. 3. Injections of morphine, aconitine, water, air, antipyrine, or methylene blue into the nerve. Dr. Schlösser's method of injections of alcohol has proved successful in four cases under Professor Schultze's care. 4. A surgical operation when all other means had failed. This consisted in a resection of the ganglion as simply cutting the nerve was liable to be followed by relapses. Professor Bardenheuer has completely relieved sciatica in five cases by removing the nerves from contact with bone and embedding them in soft tissue.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medizinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

Dr. SCHLOSSER (Munich) read a paper on the treatment of neuralgia by injections of alcohol. He said that injections of alcohol of 70 or 80 per cent. strength produced a degeneration of the nerves the effect of which was that they became absorbed until only the neurilemma remained. The injection must be made near the point of origin of the nerve, so that as much as possible of the substance of the nerve might be reached. In sensory nerves repeated injections, varying in amount from two to four grammes, must be made; in motor nerves small quantities of alcohol must be injected at intervals of about five minutes. Mixed nerves must be treated like motor nerves, but more energetically. He then gave a detailed account of an injection in a supposed case of neuralgia of the trigeminus nerve. The improvement, as a rule, continued for about a year and the injections must then be repeated if required. When it was doubtful which was really the affected nerve the treatment must be applied to more than one nerve. The use of a general anæsthetic should be avoided during the injection, as the pain indicated the proper point for the injection. Facial paresis might come on after the injections and Dr. Schlösser had seen one case of paralysis of the facial nerve from which, however, the patient recovered in less than three months. Limitation of the motions of the jaws might be produced by the growth of connective tissue between the masseter muscles as a sequel to the injection and might have to be treated by fibrolysin or by massage. He had had under his care 123 cases of neuralgia of the trigeminus nerve and among these a relapse did not occur on an average until after ten months. Among 38 cases of sciatica no relapse occurred in 35 cases; in other patients who were successfully treated without relapse the neuralgia existed in the occiput (16 cases), in the arm (eight cases), in the intercostal spaces (one case), and in an amputation stump (two cases), while in two cases it was associated with tabes dorsalis. Of 11 cases of clonus of the facial nerve nine relapsed after a period varying from three to seven months. Krause's operation gave better results but its mortality was high.

Dr. LANGE (Leipsic) recommended in sciatica the injection of a solution containing 1 per cent. of eucaine and 0·8 per cent. of sodium chloride.

Professor MINKOWSKI (Greifswald) mentioned a case in which sciatica was successfully treated by intraspinal injections of stovaine.

Professor FINKELBURG (Bonn) said that he had made experiments in which alcohol, sodium chloride, cocaine, and other compounds were injected into the substance of the nerve, with the result that paralyses occurred which did not make their appearance when the fluid was injected in the neighbourhood of the nerves. He was of opinion that the majority of observers who have obtained good results from such injections had made them not into the nerve itself but in the neighbourhood of it.

Professor KRAUSE (Berlin) admitted that his operation (the resection of the ganglion of Gasser) was still rather dangerous, the mortality being eight out of 56 cases, but it was the only remedy known in obstinate cases.

Professor BRIEGER (Berlin) reported the results obtained in his hydrotherapeutic institute, where 80 per cent. of the cases of neuralgia recovered.

Dr. SCHILLING said that he had had considerable success by the production of passive congestion according to the method of Professor Bier.

Professor VON NOORDEN (Vienna) said that patients suffering from neuralgia should in the first stage be kept in bed.

Professor SCHULTZE, in concluding the discussion, supported Professor von Noorden's opinion, especially as regards the treatment of sciatica.

The Frequency of Tuberculosis.

Dr. NAEGELI-NAEF (Zürich) said that he had on a former occasion quoted statistics based on necropsies which tended to show that 97 per cent. of the adult population suffered from tubercle to some extent. In opposition to this view it has been argued (1) that in other places a much smaller percentage of tuberculosis was found; (2) that it was not possible to infer the frequency of tuberculosis throughout the population from the number of bodies found to be tuberculous at necropsies; and (3) that in the statistical returns every case of induration has been registered as tuberculosis. Dr. Naegeli-Naef in reply to these objections pointed out that other observers in estimating the proportion of tuberculous individuals among the general population had arrived at results varying from 89 to 94 per cent., which were therefore not far removed from his own estimate. The presence of tuberculosis was completely proved in all the cases which were entered in his statistics as tuberculous.

The Distribution of the Tubercle Bacillus in Tuberculous Subjects.

Professor LIEBERMEISTER (Cologne) said that in examining the bodies of tuberculous patients who had died without general miliary tuberculosis he had found that guinea-pigs became tuberculous when inoculated with the blood or with portions of organs which under the microscope did not show any tuberculous lesion. These organs and the blood must therefore have contained highly virulent tubercle bacilli. This was so in the case of the kidneys, the heart muscle, the nerves, and the veins. This circumstance seemed to show that the tubercle bacillus has a wider distribution throughout the body than has hitherto been supposed.

Pathology of the Œdema of Bright's Disease.

Dr. SCHLAYER (Tübingen) said that he had examined the kidneys after the administration of vaso-constrictor and vaso-dilator compounds respectively. The administration of uranium give rise to the same morbid condition as occurred in poisoning by corrosive sublimate—namely, tubular nephritis. Under doses of a uranium salt varying from 0·1 to 0·3 gramme the normal secretion of urine was arrested, but it was resumed on the administration of diuretics, to be again stopped by the administration of sodium chloride. The essential factor was the nature of the lesion of the renal vessels which in nephritis produced by uranium caused a decrease of the permeability of the kidney, whereas in other forms of nephritis it caused an increase of the permeability. In order to determine the relation of these phenomena to the production of œdema, the subjects of experiment were copiously supplied with water, but no œdema made its appearance until the dilatation of the renal vessels had ceased.

Dr. **Wiesel** (Vienna) said that, according to his observations in chronic Bright's disease, the chromophilic system inside and outside the suprarenal glands was abnormally developed, but only in cases where hypertrophy of the left ventricle of the heart was present. The increase of the chromophilic elements depended on the sympathetic nerves. He was of opinion that nephritic arteritis was due to a degeneration which began in the media of the arteries and led to hyperplasia only after atrophy of the elastic elements and of the muscles had taken place. Nephritic arteritis was anatomically very like arteritis caused by adrenalin.

In the course of the discussion Professor **Strauss** (Berlin) said that vascular lesions were essential for the production of œdema—an opinion which was proved by the clinical fact that after a nephritic apoplexy the paralysed leg remained œdematous for a longer time than the healthy one. A dietary containing a great amount of sodium chloride might cause œdema in patients with Bright's disease because the sodium chloride attracted water. The principal question was the nature of the symptoms from which it might be inferred that a patient suffering from nephritis would probably develop œdema. Professor Strauss was of opinion that this might occur in cases where only a small amount of sodium chloride was present and where the body increased in weight.

Professor **von Noorden** was opposed to the systematic withholding of sodium chloride from patients, because salt-free food was unpalatable and the patients became weaker through having little or no appetite.

The Circulation of the Blood in the Coronary Vessels.

Dr. **Spalteholz** and Dr. **Hirsch** (Leipsic) said that, according to the late Professor Cohnheim, the coronary arteries were end arteries, but by means of injections they had discovered anastomoses between these arteries both in the dog and in the human subject.

Dr. **Schwalbe** (Berlin) said that several other arteries besides those of the heart were erroneously believed to be end arteries.

(To be continued.)

THE RENEWAL OF THE SANDGATE SANATORIUMS SCANDAL.

(From our Special Sanitary Commissioner.)

Once more the Sandgate scandal has come before the public and this in a manner that will cause an unpleasant surprise. The pretence that outdoor treatment such as is given to patients at Nordrach, Davos, and Leysin, could be obtained at the Jones's homes of Sandgate was exposed long ago.[1] Mr. Jones, junior, declared that he had destroyed 10,000 circulars, making assertions to that effect. Committees of the House of Lords and then of the House of Commons inquired into the matter and finally the Sandgate Urban District Council (Sanitary Powers) Act of 1905 received the Royal Assent on August 4th of that year. This law was supposed to herald the dawn of a new era. To Sandgate appertained the honour of having become the pioneer town of Great Britain. It is but a small place with barely 2000 inhabitants, but it is so close to Folkestone as to become practically a suburb of that fashionable seaside resort. This very small community has spent £3000 to get a special Act of Parliament which, as an example, was to prove of great benefit to all towns in general and to Folkestone in particular. From the Jones's homes of Sandgate the undisciplined patients who, for the most part, are suffering from pulmonary tuberculosis, can easily stroll up to the Leas, mingle with the fashionable crowd that gathers on this favoured spot, and listen to the Folkestone band. Doubtless these pauper patients behave as well as can be expected in the circumstances; but there are some rough elements among them, and the inhabitants of Sandgate naturally complain when they find that about one-tenth of the residential population consists of sick paupers imported from other parts of the country and from notably such poor districts of London as are represented by the Poplar Union. Nor are the inhabitants, who treat their own paupers in a very different manner, inclined to believe that the ratepayers of London and other centres would approve of the manner in which their money is spent at Sandgate.

If patients are sent to the seaside at the public expense this is done so that they may be cured by undergoing regular treatment. It is true that in most cases listening to music on the Leas does the patients more good than loitering about the public-houses at Sandgate. The ratepayers of Folkestone, however, are not animated with such loving kindness as to tax themselves so as to provide bands for the benefit of the paupers from Poplar and other such places. Thus at Folkestone, as well as at Sandgate, there was a joyful anticipation that, after an Act of Parliament had been obtained, something more like order and discipline would prevail at the Jones's homes. It was supposed that the patients would be classified and those who were in such a condition as to be a danger to the community would only be accepted in places where there exist private grounds sufficiently large to assure their complete isolation from the general public. The Jones family does possess a property well suited for this purpose—namely, Manor House. It is well away from the town and surrounded by a park and gardens. In regard to its beauty as a private residence this had already been desecrated by the building of pigsties and the attempt to convert an admirable site into a pig farm and dairy. Strange to say, however, that the one and only property which the Jones family possesses which is really suited for the outdoor treatment of tuberculosis is the only place where they have never sent a patient of any description. Moreover, these homes never were under the real and unfettered management of a qualified medical practitioner. It was for this reason that, after a lengthy debate during the congress of the Royal Institute of Public Health when it met at Folkestone two years ago the following resolution was adopted:—

> That homes or sanatoriums for the aggregation and treatment of tuberculous patients should stand in their own grounds in an isolated position away from the general population and be placed under the absolute control of fully qualified medical practitioners.

Formerly it was not reasonable to expect that there should be effective medical control. Before the House of Lords Committee evidence was given and a document was read which did give Mr. A. J. Gore the post of "consulting and acting physician" to the said homes and made him "solely responsible" for the welfare, food, and treatment of the patients. The matrons and nurses who did not carry out his instructions were to be dismissed, and, in fact, on paper the whole arrangement seemed satisfactory. But it also appeared, in evidence, that this deed had been drawn up by Mr. F. T. B. Jones, who was dead, on behalf of his father, Mr. J. J. Jones who was also dead, and was supposed to be applied by Mr. P. H. Jones who had no legal authority whatsoever to deal with the question. Besides, and as pointed out at the time,[2] whatever documents might be drawn up, the medical officer employed could not be really master of the situation. The simple fact of being employed destroyed his freedom of action. The fact that the payments made would not be less than £200 a year and might amount to about £300 placed the medical officer in a dependent position. No medical practitioner would accept such a post if he had sufficient private means to be independent of the remuneration. But, on the other hand, the medical officer would soon discover that he could not keep his post if in his zeal for the welfare of the patients he compromised the profits which his employers derived from the business. Therefore it was felt that so long as such sanatoriums were allowed to be managed on the lines of a commercial enterprise the law should step in between the speculator on one side and the patient on the other and lay down certain principles that must be observed. These rules and regulations of management were not to be left to the medical officer, as he would probably lose his post if he attempted to render them effective. Therefore the Sandgate Sanitary Powers Bill established two very important principles: Firstly, that after March 1st, 1906, no one should keep within the district a building used to receive patients without being licensed; and, secondly, that the district council should draw up rules in regard to the structure and management of such places

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[1] See The Lancet of August 22nd, 1903, p. 565.

[2] See The Lancet of July 1st, 1905, p. 51.

These rules or by-laws, if approved by the Local Government Board, could then be enforced and penalties inflicted in case of non-observance.

Such an enactment seemed very much to the purpose. It was only necessary for the Sandgate authorities to draw up suitable rules and regulations. As good advice from competent authorities would be readily tendered rules could be drawn up that would render Sandgate free from the grievances from which it had suffered for so long. Other towns seeing how the little community of Sandgate had substituted law and order for the anarchy which had prevailed during many years, would naturally apply for similar powers. Parliament finding such demands flowing in from various quarters would soon conclude that instead of dealing with many local Bills it would be best and would involve less trouble to enact one general law for the entire kingdom. Thus, by its initiative, Sandgate might have taken the first trial step destined to save this country from the slur of having no law to prevent a scandalous exploitation of a large number of patients. If a tradesman wishes to open a shop for the making up of medical prescriptions the drugs must only be handled by a qualified pharmacist. Here, in any case, we have law. But if another tradesman opens a sanatorium for the medical treatment of tuberculous patients, he can construct or purchase the most unsuitable building, he can feed his patients on inappropriate diet, he can overcrowd them, he can lodge them in such a manner as to make it impossible for them to obtain sufficient pure air, he can let them frequent public-houses or music-halls, and, generally speaking, besport themselves in such a manner as to become a danger and a nuisance to the community and greatly to compromise their own chances of recovery. It may pay better, at Sandgate it does pay better, to allow such things to happen than to enforce suitable rules for the care and control of patients. This state of things is pure anarchism—that is to say, there is no law, no government. But at Sandgate it was now thought that law and government would be introduced. The principle was accepted and a law was enacted to that effect. Rules and regulations were to be drawn up and sanatoriums would only be sanctioned if they observed such rules. All this seemed so just, so simple, and so likely to be effected that apparently it was considered too good to be true.

The Lords Committee, it will be remembered, at once set to work to destroy the good which it had done. Events have now proved that this mischievous purpose has been most successfully accomplished, for the law remains a dead letter. The Lords Committee added a clause to the Bill which is worded as follows:—

> If the owner or occupier of any house, building, or premises used as a hospital for disease on the 22nd day of May, 1905, sustains any damage or loss in respect of such house, building, or premises, or in respect of the business conducted in any such house, building, or premises by reason of any regulation made under this Act, or by reason of any condition imposed by the council on the grant or renewal of any licence under this Act, or by reason of the refusal by the council to grant or renew any such licence, the council shall pay to such owner or occupier respectively full compensation for all such damage or loss, and the provisions of the Lands Clauses Acts with respect to the claiming, settlement, and recovery of compensation shall apply with all necessary modifications to compensation under this section.

The term "a hospital for disease," as employed in this Act, is taken to cover homes where tuberculous patients are received and does not include convalescent homes. As it was pointed out at the time, this compensation clause is a premium offered to evil doers. At present anyone who before May 22nd, 1905, established in a crowded London thoroughfare, or in any other unsuitable position, a home for the treatment of tuberculosis may look forward, if the Sandgate precedent holds good, to receive "full" compensation.

It is said that when the Sandgate Bill came before the Committee of the House of Commons a strenuous effort might have been made and that the compensation clause might then have been removed, but there was a risk that this would wreck the entire Bill. At that time the Sandgate district council was anxious to get the Bill in any form, thinking that an imperfect measure would be better than nothing and that it was preferable to pay compensation rather than to allow the scandal of the Jones's homes to continue. It did not reckon, however, on the revulsion of feeling that the disappointment would cause. Here were people the value of whose property and whose incomes had been reduced 50, and even more than 50, per cent. If any compensation was to be given they claimed it for themselves, arguing that the persons who had been ruined should receive compensation and not those who had caused the ruin. Already the impoverished inhabitants heard that their taxes must be increased so as to pay the £3000 which it had cost to carry the Bill through both Houses of Parliament. Now, under this Bill which was to bring them relief they were to be further taxed for the purpose of paying compensation to the Jones family so that they might cease to create a nuisance. Coinciding with this discontent came an election for the renewal of a part of the district council. This election effected a local revolution. The resignation of the clerk of the Sandgate urban district council, who had engineered the Bill through Parliament and was prepared to apply this new law, was now accepted. A new district surveyor and sanitary inspector was appointed. Of the three most important local functionaries only the medical officer of health remained. With the new men came a new policy which has led up to the recent proceedings and judgment against the Jones's homes before the Elham county bench. This result, however, was not obtained under the new law but under the old Public Health Act of 1875. All the difficulties that for so long afflicted the inhabitants of Sandgate are of more than local interest. In the absence of any law on the subject similar difficulties may arise in any part of the country. Therefore it is of practical utility to understand in its principal features the problem as it now stands. For this purpose it will be necessary to analyse the details of the proceedings which have taken place and to examine carefully the situation created by the new Act of Parliament.

(To be continued.)

SOME TURKISH LAZARETS
AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

(With Reproductions of Photographs taken by the Author.)

VI.[1]

THE CAMARAN LAZARET (*continued*).

Existing Hospitals for Infectious and for Ordinary Diseases.—Inadequacy of Present Buildings (Arishes).—Statistics of Ordinary Sickness among the Pilgrims.—Proposed New Hospital for Ordinary Diseases.—History of Plague and Cholera at Camaran since 1890.—Proposed New Hospital for Infectious Diseases and Small Disinfecting Pavilion common to the Two Hospitals.—The Personnel of the Lazaret: Permanent Staff and Annual Mission; the Accommodation Provided for Them.—New Houses Proposed for the Medical Officers and for Several Minor Employees.

THE present hospital accommodation at Camaran is not of a very satisfactory character. As already stated, it was originally intended that the sick should be treated within the cordons, instead of being removed to a central hospital; and with this object a masonry building was constructed in (or near) each cordon. The characters of these buildings were briefly described in Article IV. They are built of bricks prepared at Camaran; the flooring is raised and supported on a series of arches and piles, also composed of brick. Unfortunately the bricks have proved to be not sufficiently strong to support the weight of the buildings. In each of them, with a quite remarkable uniformity, the walls have become badly cracked, and there is a serious outward thrust at the junction of the basement and the walls. In addition, the flooring, composed of tiles, has been badly distorted; the two rows of tiles corresponding to each row of brick piles underneath have been crushed together (like the angle of a roof); and the brick arches threaten to fall in. In one of the buildings (that at the fourth cordon) this has actually happened: one arch has entirely collapsed and a gap a yard or more wide runs right across the floor of the building. The exterior of one of the camp hospitals is seen in Fig. 22. The Commission, on the advice of its engineer, condemns these "hospitals" as too dangerous to be put to any use and recommends their demolition. Some of the material of which they are built (notably the woodwork and tiles of the roofing) can be employed for other constructions.

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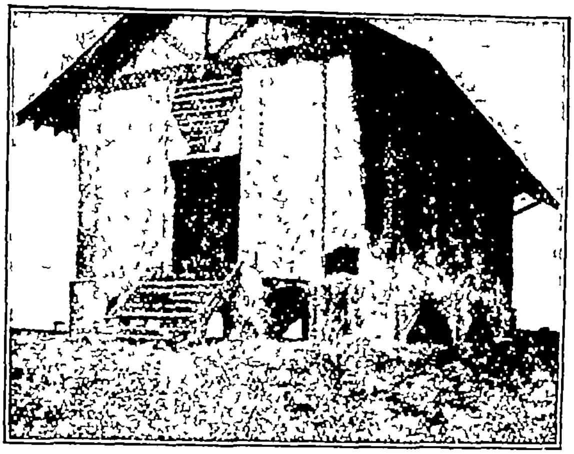
[1] Nos. I., II., III., IV., and V. were published in THE LANCET of April 27th (p. 1188), May 4th (p. 1251), 11th (p. 1317), and 18th (p. 1389), and June 1st (p. 1518), 1907, respectively.

For some years past it has been recognised that it is more satisfactory to treat the sick in a central hospital than in the cordons themselves. Two temporary hospitals composed of "arishes" have been run up, one on the small island already mentioned near the third cordon and the other some way inland and near the oasis and Sheikh Iraki's tomb. The hospital on the small island consists of two mat sheds; it is occasionally used to isolate cases of small-pox. The sheds are old and in bad condition, and this "hospital," which, as the Commission states, scarcely merits the name, is condemned to disappear. The other hospital consists of three arishes, of practically the same construction as an old-type arish for pilgrims in the cordons but rather smaller. It is surrounded by a lath fence and connected with the rest of the lazaret by a branch of the Décauville railway. The arishes were originally put up to lodge the military guard of the lazaret and have only been used as hospital wards since 1902. The interior of one is seen in Fig. 23. Each arish can hold 12 patients. At the end of one is a small compartment used as a laboratory; and there are other sheds used as a kitchen and offices. Outside the enclosure there are two pits in the sand into which the excreta are thrown and covered with lime. In place of this hospital, which does not fulfil the requirements of a modern institution of this nature, the Commission proposes to build a masonry hospital for ordinary diseases, the plan of which is annexed to its report. This plan provides for four wards, in separate pavilions, two of which would hold 12 patients each and the other two eight patients each. There would thus be accommodation for 40 patients. Experience has shown that this will suffice for the needs of the lazaret; indeed, up to the present the total number of sick under treatment at the same time has rarely exceeded 30. The following table shows the numbers of sick pilgrims removed to hospital in the last three pilgrimage seasons.

FIG. 22.



Hospital in one of the cordons.

FIG. 23.

Interior of a hospital arish.

Year.	Number of sick.			Number of cases of small pox.
	Men.	Women and children.	Total.	
1903-4	164	52	216	12
1904-5	120	24	144	29
1905-6	168	27	195	13

The plan of the proposed hospital further provides for an operation-room, a bacteriological laboratory, a kitchen, a pharmacy, and rooms for attendants and for linen, &c. Surgical cases are not very common among the pilgrims but they do occasionally occur and, in addition, cases requiring operation are not infrequently attracted to the Camaran hospital from among the Arab population of the island and of the mainland. Lithotomy or lithotrity and amputation for mycetoma (Madura foot) are the operations most frequently performed. I have published elsewhere[2] what are, I believe, the first recorded observations on the existence of the last-named disease in Arabia. As far as they go, they would seem to show that Madura foot is of quite common occurrence in the Yemen province of that country.

In addition to the hospital for ordinary diseases the Commission strongly urges the construction of another hospital for infectious diseases, especially plague and cholera. It is, indeed, one of the most serious deficiencies in the lazaret as it now is that there is no proper accommodation for the isolation and treatment of cases of these diseases. Fortunately, of recent years neither plague nor cholera has been very frequently seen at Camaran, but it is obvious that they may occur at any time and that means should be provided for promptly dealing with them if they should break out. The history of both these diseases in the Camaran lazaret during the last 16 years is of considerable interest and may be briefly summarised as follows. Accurate records for the years preceding 1890 are unfortunately wanting.

In 1890 the s.s. *Deccan* arrived at Camaran from Bombay, having had 34 deaths on board during the voyage, seven of which were ascribed to cholera. There were three cholera patients on board at the time of arrival; 12 other cases developed during the landing operations; and in all there were 36 deaths from the disease among the pilgrims from this ship. The rest were detained 59 days in the lazaret. In addition, a soldier on guard, three Arab "gardiens," the "*bakal*" (provision seller), and three inhabitants of the village died from cholera which was therefore the cause of 44 deaths in all. Two other infected ships arrived at Camaran the same year on their way back from the Hedjaz (already invaded by cholera); on one there were four cases and three deaths, while on the other there were 11 cases and six deaths.

In 1891 the s.s. *Sculptor* arrived at Camaran on May 1st. Nothing suspicious had occurred during the voyage. On the 8th cholera broke out among the pilgrims from this ship and up to the 21st there were 18 cases and 14 deaths from the disease. In addition, an Arab guard died from cholera. In the same year one fatal case of cholera occurred among the pilgrims returning to the Yemen from the Hedjaz.

In 1893 the s.s. *Adana* arrived at the lazaret, carrying soldiers from Hodeidah, the principal port of the Yemen. Cholera was then present in that province. The disease attacked the men in the lazaret and caused 37 deaths. The ship remained 39 days at Camaran. In the same year a suspected case of cholera occurred on the voyage and another at the lazaret among the passengers of a ship from Calcutta. In May of the same year the s.s. *Knight of St. John* arrived at Camaran; cholera broke out amongst the passengers three days after they had landed in the lazaret. There were in all 34 cases with 25 deaths. The ship remained 31 days in quarantine.

In March, 1895, the s.s. *Mohammadi* arrived at the lazaret with 818 pilgrims. On the seventh day after the landing of the latter cholera appeared and in 17 days was the cause of 27 cases and 25 deaths among the pilgrims. In addition a native employed in emptying the cesspools and three soldiers died from the disease, bringing the total number of cases to 31 and of deaths to 29. In the same month of the same year the s.s. *Jubeda* arrived with 1044 pilgrims. Four days later cholera broke out amongst them and in the course of a month 57 pilgrims were attacked by the disease and 48 died; in addition six guards and two soldiers died from it. There were thus in all 65 cases and 56 deaths from cholera. In April, 1895, the s.s. *Husseinee* arrived at Camaran with 706 pilgrims. Six days later cholera broke out amongst them; the epidemic lasted a month and caused 20 cases with 15 deaths among the pilgrims and one death among the Arab guards.

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[2] Brit. Med. Jour., April 21st, 1906.

Since the date last given no case of cholera has been observed in the Camaran lazaret. It is certainly a striking fact that, while in the first five years of the series, cholera was imported there on 11 occasions, in the last 11 years it has not once made its appearance. This difference is probably to be ascribed to the stricter measures taken in Indian ports before the departure of pilgrims since the appearance of plague in Bombay in 1896, and also in some degree to improvements effected in the lazaret itself—more particularly the introduction of steam disinfecting stoves and of a distilling apparatus to provide a pure drinking water. The only case of plague observed at Camaran during the period under review was an imported case which occurred on a sailing ship in 1900; the patient recovered.

The Commission's report expresses the hope that the lazaret may continue to be as free from cholera and plague in the future as it has been in the past 11 years. But, as is rightly pointed out, either disease may appear there at any moment and it is the first duty of those responsible to provide a proper hospital for the isolation and treatment of such cases as may occur. The Commission proposes therefore the construction of a small hospital of three wards, in separate pavilions, each ward sufficing for eight persons. The plan of such a hospital, with its annexes, is inserted in the report.

Each of the two hospitals proposed by the Commission will be surrounded by a high wire fencing of the same character as that proposed for the cordons. The hospital for infectious diseases will be built at some distance to the north of the hospital for ordinary diseases. Between the two it is proposed to build a small disinfecting pavilion for the common use of both, and to establish here the moveable disinfecting stove of which mention has already been made. The new hospital sections will be connected with the rest of the lazaret by a loop line of the Décauville railway.

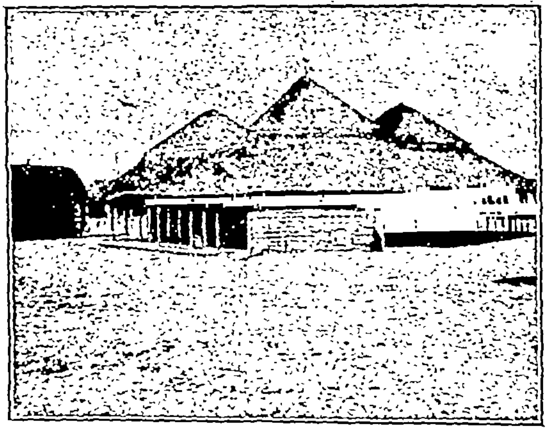
In the preceding articles I have described at considerable length those portions of the lazaret of Camaran that are essentially intended to serve the needs of the pilgrims themselves. There remain, however, a large number of buildings and installations connected with the administration of a large institution such as the one in question. These may be somewhat more summarily dealt with.

The staff of the lazaret and their residences.—The staff is made up of two groups of employees—those who remain at Camaran all the year round (*personnel permanent*) and those who go there only for the five or six months of the pilgrim season (*personnel provisoire*). The latter form what is commonly spoken of as the annual "mission" to Camaran. The permanent staff consists of the director (a medical man), a first clerk, a first kiatib (Turkish clerk), a "magasinier," three disinfectors, first, second, and third engineers (*mécaniciens*), two assistant engineers (*aide-mécaniciens*), a stoker, two painters, two masons, a carpenter, two head guards, eight guards, a "chef-arichdji," and eight "arichdjis" (i.e., builders of arishes), two boatmen, and some other employees. The "mission" consists of from seven to ten medical men, a lady practitioner (from India), a chemist, a second clerk, two additional disinfectors, two additional boatmen, three male and one female hospital attendants, and others. In addition to the above there is the crew of the tug, consisting of a captain, an engineer, a stoker, and three sailors, and a large and variable number of Arabs and Dankalis, employed as "guards" in the cordons, to assist in the machinery building, in the disinfecting pavilions, or in the emptying of the excreta pits (*vidangeurs*), as postmen, messengers, servants, and in a variety of other capacities. The number of "guards" employed varies with the number of pilgrims interned in a given cordon. In principle there should be one guard for every ten pilgrims, but this maximum is rarely attained. Still there are often 30, 40, 50, or more guards in a single cordon; they are paid from four to five piastres (8*d.* to 10*d.*) a day. A considerable number of the persons mentioned in the above list live in the village of Camaran. The rest (including all the European members of the staff) are housed at the lazaret in a series of structures which may be briefly described as follows.

In each cordon is the "doctor's house" mentioned in Article III. It is proposed, as there stated, to give up these houses to pilgrims "of distinction" and to build a new smaller house for the medical man in each camp. The plan of such a house is annexed to the Commission's report; it provides for two rooms, with a good verandah back and front, and kitchen, bathroom, and water-closet (all lacking in the present houses) attached.

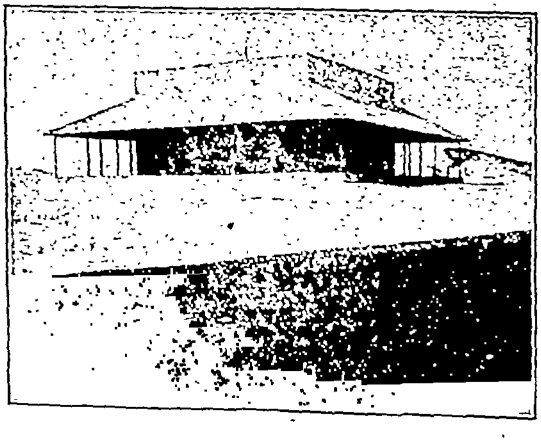
When not on duty in the cordon the medical members of the staff are mostly lodged in rooms in the upper storey of a building known as the *logement du personnel*. This is the largest and most central of the administrative buildings. It contains the offices of the lazaret and a large store-room on the ground floor and was intended originally to have no upper storey. But, as an after-thought, the upper storey was added with a verandah running round it. A number of "kutcha" constructions, used as kitchens, depôts, &c., in its immediate neighbourhood are condemned to disappear.

FIG. 24.



New arish-bungalow occupied by the Commission.

FIG. 25.



The lady practitioner's house.

As a whole, the building is of solid construction and in fair condition; it has certain defects which it is proposed to remedy but which scarcely need to be enumerated here. The rooms in the upper storey serve to house not only the medical officers of the lazaret but also some other members of the staff. The Commission proposes to build a separate house for the medical officers, the plan of which is furnished in its report. It would provide for a large common room, six bedrooms, two deep and shady verandahs, kitchen, bathrooms, and water-closet.

Fig. 24 is a view of the arish-bungalow built for the members of the Commission and occupied by them during their stay in the island. It will henceforth serve as the residence of the director of the lazaret and his family. It is built of the same materials as the arishes for pilgrims, only of rather better quality, and the whole has been more carefully constructed. It consists of a central dining-room of hexagonal shape, with three bedrooms and three deep verandahs leading off it. In the climate of Camaran it made a pleasant, cool, and shady house to live in.

The lady practitioner, who comes to the lazaret from India each pilgrimage season, occupies a stone house specially built for her and only recently finished. It is seen in Fig. 25 and is one of the most satisfactory of all the residences provided for members of the staff. In another stone house, at no great distance, is lodged the British Vice-Consul, who comes over from Hodeidah to reside at Camaran during the pilgrim season. On the "Mervani plain," close by, are five small houses occupied by different employees of inferior rank. They were originally built as temporary lodgings for the workmen employed in the repair and completion of the lazaret ten years ago. The Commission found them unsuited for permanent residences in a climate such as that of Camaran, and it is proposed consequently to build five houses in their place, not on the same site but on a hill close to the northern shores of the bay, known as the Djebel Hadlja. This hill rises some 40 or 50 feet above sea-level and is one of the most airy and pleasant spots in the island. Finally, there are several arishes, some on Djebel Hadlja, some near the machinery building and elsewhere, occupied by the guards and other inferior members of the staff.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Schools as "Poison Dens."

IN the course of a discussion at a recent meeting of the Cheshire education committee some strong language was used as to the insanitary condition of many of the schools in the county. The matter arose from the Director of Education drawing the attention of the committee to the fact that the Government grants to elementary schools were liable to reduction on account of the absence of children from school either suffering from infectious sickness or coming from homes where it existed. One of the members said that some of the schools were "simply poison dens where children were crowded to the prejudice of their health. When they were poisoning the children it was no wonder they had epidemics." In the face of this statement, which does not appear to have been contradicted, it was decided to ask the Board of Education to compensate education authorities for any loss of grant owing to the absence of scholars on account of infectious disease. If the condition of some of the schools is as bad as described, and the educational authorities allow it to continue, they are asking for compensation for loss of grant due to the insanitary state of schools under their authority, for which conditions they are responsible. Their obvious duty is to get rid of the insanitary conditions and afterwards ask for compensation.

The Rearing of Infants.

Mr. A. W. Martin, the medical officer of Gorton, has been speaking some plain words in his report as to the prevalence of diarrhœa among the children during the latter part of last year. He states that of the number of cases only about half the mothers had made an attempt to suckle their infants. "The present generation is witnessing an occurrence in evolution never probably before experienced by the human race, and that is, a race of breastless women." He says it is difficult to estimate the extent of the connexion between this and the increased drinking habits of women, but he believes it has an important bearing on it. The evolution he speaks of is not an agreeable one, independent of its being of ill omen for the coming race.

Death from Anthrax.

Two butchers, living near Blyth and working for the Seaton Delaval Coöperative Society, developed symptoms of anthrax on May 23rd. One of them has died at the Newcastle-on-Tyne Infirmary, but the other is said to be going on favourably.

June 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Military Hospitals in Scotland.

THE War Office recently approached the St. Andrew's Ambulance Association to see whether it could, in case of war, take charge of the military hospitals in Scotland and so release the Army Medical Corps for service abroad. I understand that the association has expressed its willingness to undertake the duty. It has been arranged that the officers and men in time of war would receive payment on a similar scale to that in force in the Royal Army Medical Corps and would have to hold themselves ready for service at 48 hours' notice.

Industrial Diseases in Glasgow.

In connexion with the evidence taken by the Departmental Committee on Compensation for Industrial Diseases the information given by Dr. A. K. Chalmers, medical officer of health of Glasgow, was distinctly interesting. The death-rates from these diseases when in tabular form bring out very clearly the diminution in the number of deaths from the various so-called industrial diseases. From all causes for males and females at each decennium the rates are now lower than in the 1871 period, and, as a rule, the male rate is in excess of the female rate save between the ages of 25 and 35 years. As regards pulmonary tuberculosis in the "seventies," the female rate exceeds the male rate at each age period and is still above it at ages from 25 to 45 years in 1902; from 45 to 65 years it is below it. As regards other respiratory diseases, the female rate is uniformly lower than the male rate throughout. As some inequalities appeared in the tables when pulmonary tuberculosis and other diseases of respiration were shown separately it was thought well to group all diseases of the lung, including pulmonary tuberculosis, together. The result was to produce a more uniform movement in the rates and showed that between the ages of 25 and 35 years those for females were almost always, although only slightly, in excess; but in the succeeding decennial periods, and particularly after the age of 45 years, the reverse was the case and became pretty marked.

Arbroath Infirmary.

The honorary treasurer of the Arbroath Infirmary has received a cheque for £100 to go to the funds of the infirmary from the North British Railway Company in recognition of the services rendered by the infirmary at the time of the Elliot Junction disaster.

Motor Ambulance Vans and Speed Limit.

At Kilmarnock sheriff court last week the driver of a motor ambulance was charged with exceeding the ten-mile limit in passing through the village of Fenwick. The defence was that a motor ambulance was privileged in the same way as a fire brigade, and the driver stated that he had never been interfered with in Glasgow or elsewhere when exceeding the limit. In this case the ambulance was empty but the driver was hurrying back to take a patient to the infirmary. The sheriff, in imposing a modified penalty of £1, said he should be inclined to regard with great consideration any ambulance van or fire engine which was proceeding for the preservation of life or property, but it would be a very curious way of promoting the public safety if ambulances were to go at such a rate as to cause people to be killed or accidentally run down.

Asylum Tragedy.

A most unfortunate incident is reported from Sunnyside Asylum, Montrose. In a dormitory where several men were sleeping was one old man, 68 years of age, who was partly paralysed. During the night he was attacked by the patient in the next bed to him and died from a wound inflicted on the head with a wooden chair. No blame is attached to the hospital authorities as the assailant had previously shown no homicidal tendencies.

Heavy Infantile Mortality at Stirling.

The Stirling town council has decided to appoint a lady as health visitor and nurse in view of the alarming infantile mortality prevailing in the poorer districts of the town. The mortality last year among infants was 212 per 1000—a number exceeding the infantile death-rate in even one of the lowest and poorest localities in Glasgow.

University of Aberdeen: Cancer Research Fellowship.

At a meeting of the Senatus of the University of Aberdeen held last week, the Medical Faculty reported that an appointment had now been made to the Fellowship for Cancer Research recently instituted in the University by the Hon. A. McRoberts, the gentleman appointed being Mr. Bertie R. G. Russell, M.B., Ch.B. Aberd., who is at present practising at Ilford, Essex. The value of the Fellowship is £200 per annum. Dr. Russell was winner of the Anderson research scholarship in connexion with the University of Aberdeen.

Great North of Scotland Railway Ambulance Competition.

The eighth annual competition for the silver challenge cup presented by the directors of the Great North of Scotland Railway Company for the team most proficient in ambulance work was held on Saturday of last week at Inverurie under the auspices of the St. Andrew's Ambulance Association. The competition is open to teams of five men each drawn from the servants of the company and the Joint Station Committee who have gained ambulance certificates or hold medallions of proficiency in the work. Four teams entered—Aberdeen Guards, Elgin Station, Locomotive No. 2, and Locomotive No. 1. The result was as follows:—

	General knowledge.	Bandaging, &c.	Transport.	Total
1. Locomotive No. 2	77½ ...	83 ...	82½ ...	243
2. Aberdeen Guards	76½ ...	75 ...	84 ...	235½
3. Locomotive No. 1	71½ ...	74 ...	87½ ...	233
4. Elgin Station	75 ...	75 ...	78 ...	228

It may be mentioned that since the inauguration of the competition in 1900 the locomotive department has gained the cup five times—namely, in 1900, 1901, 1904, 1906, and 1907, while the Aberdeen guards were successful in 1902, 1903, and 1905.

June 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The Public Health of Belfast.

AT the last weekly meeting of the Belfast health committee, held on May 30th, it was reported that there were 22 cases of cerebro-spinal meningitis notified for the week ended May 25th, as compared with 24 in the previous week, the total cases up to the date named being 465 and the total deaths 336. The cases recently admitted are of a milder type. The Registrar-General, Mr. Robert E. Matheson, has issued a special return relative to the epidemic for the quarter ended March 30th which gives some interesting statistics with regard to age and sex incidence. During the week ended May 25th the death-rate of Belfast was 23·1 per 1000, and during the four weeks ended at that date there were 221 notifications of infectious disease.—At the usual monthly meeting of the Belfast city corporation, held on June 3rd, it was reported that between April 14th and May 18th the general death-rate of Belfast was 23·7. The report of the medical officer of health was largely statistical, but a comparison of Belfast with smaller Irish towns like Cork, Limerick, and Londonderry is unfortunate. The bolder lessons to be drawn by comparison with towns of equal size in England and Scotland should be given to the population. The complete scheme for the new asylum put forward by the chairman of the asylum committee has been dropped on the ground of expense, and preliminary plans are to be prepared for extensions at Purdysburn to consist of administrative buildings, places of worship, and four additional villas.

Queen's College, Belfast.

It will be recollected that about a year ago Sir Donald Currie, who gave the munificent sum of £20,000 to the equipment fund of Queen's College, Belfast, in reply to a request from the students, promised also that, if by June, 1907, a sum of £3750 was raised he would contribute £1250, so that £5000 might be available for an athletic ground adequately equipped. The students thought that the best plan was to organise a great fête, and this was opened on May 30th by Mrs. Wisely, a daughter of Sir Donald Currie, and it has been in full swing every weekday until the evening of June 3rd. Unfortunately, the weather was most inclement and interfered with the outside "shows," but it is hoped that the desired sum will be raised to fulfil Sir Donald Currie's offer. The students and their friends worked very hard to make the fancy fair a success.

The Weather.

During the past week the weather in the North of Ireland has been very severe, cold, wet, and stormy, so that up to the present there is no appearance of summer.

June 4th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Infantile Mortality in Newport.

THE question of infantile mortality has for some years occupied the attention of the sanitary committee of the Newport (Mon.) corporation. During the five years 1896–1900 the infantile mortality rate in the borough was 170 per 1000 births and in the five years 1901–05 it was 142 per 1000. These figures show that the efforts made by the sanitary authority to reduce the mortality have not been without effect. It is of interest to note that water carriage is almost universal in Newport, so that there has been no abolition of privy middens, to the existence of which in the midland and northern towns the large amount of infantile mortality is so often attributed. In a recent exhaustive and instructive report the medical officer of health (Dr. J. Howard-Jones) points out that the chief measures by means of which the amount of child mortality may be reduced include (1) the education of the expectant mother in respect to the great importance of attending to her personal health and of making every effort to bring up her child at the breast; (2) education of the girls in the higher standards in domestic hygiene and temperance and the formation of continuation classes in these subjects; (3) the notification of all births within 48 hours to the medical officer of health; (4) measures for the better protection of infants, such as the strict supervision of illegitimate and farmed-out children; (5) measures operating through the mother, such as the feeding of expectant and suckling mothers; (6) measures for providing a pure milk-supply for hand-fed infants; and (7) measures for promoting cleanliness outside the homes. Dr. Howard-Jones considers that in the past too much attention has been paid to the provision of pure milk depôts instead of obviating the necessity for them by inducing mothers to nurse their offspring. He suggests that the midwives in practice in the town should be asked to coöperate in the work of persuading their patients to adopt breast-feeding and that there should be an organised system of visitation of the mothers for the purpose of educating them in regard to infant and domestic hygiene.

Cardiff Police Surgeons.

The Cardiff corporation has decided not to appoint a chief surgeon to the city police. A recommendation to make such an appointment was made last year by the head constable who proposed that the duties of the surgeon should be to examine all recruits for admission to the police force and to the fire brigade, to examine and to report upon cases of constables recommended for temporary pensions in consequence of incapacity, to deliver ambulance lectures and to consult with the divisional surgeons in cases of suspicious death where a second opinion was required. Until 1901 there was only one police surgeon in Cardiff but early in that year three surgeons were appointed, each with a separate division.

Notification of Pulmonary Tuberculosis in Shrewsbury.

The Shrewsbury town council has resolved on the recommendation of the medical officer of health (Mr. M. Gepp) to adopt a system of voluntary notification by the medical practitioners in the town of cases of pulmonary tuberculosis and to offer to disinfect, free of cost to the occupier, every house which has been vacated by a consumptive patient.

June 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Early Reaction of the Skin in Radiography.

AT the Academy of Medicine on May 22nd M. Béclère pointed out that in working with the x rays or salts of radium the inflammatory reaction generally takes ten days to appear; sometimes, however, on the second day an early and irritating erythema comes out which may be called the "pre-reaction." This is due to the less penetrating "secondary" radiations given out from the glass wall of the Crookes tube or the metallic envelope of the radium salts. From the therapeutical standpoint the chief lesson to be learnt from this physical theory is this, that the radiographer who wants to know if he has reached or exceeded the proper time of exposure and if he should continue the treatment should not, as is generally held, be guided by the presence or absence of this early reaction which is a purely accidental phenomenon, but should study as accurately as he can the necessary time of exposure to the therapeutic agent that he uses, whether the Roentgen or radium emanations; this is the best method of estimating the degree of the regular reaction which will follow and which is alone of importance.

Treatment of Ozæna by Injections of Solid Paraffin.

At the Congress of the French Otological, Laryngological, and Rhinological Society on May 14th M. Gault showed a paraffin syringe which was very simple and ingenious. Instead of increasing the force, which is the principle adopted in Broeckaert's apparatus, Gault's instrument decreases the resistance. It consists of a long body and short needle, and with it cylinders of solid paraffin at 45° C. can be injected; it is simple, light, easy to sterilise and to manipulate, and should prove very serviceable in the marked atrophic cases where injection has proved difficult.

Lumbar Puncture in the Treatment of Syphilis.

M. Jeanselme and M. Barbé have shown by performing lumbar puncture on 53 cases of syphilis that lymphocytosis may appear at any stage of the disease; it occurs frequently in the secondary eruptive stage but is not regularly found. It may equally well be seen in old cases with no nervous lesion that can be detected clinically. When a lumbar puncture can be done after a course of mercurial inoculations the continuance or disappearance of the lymphocytosis gives a useful indication as to whether the treatment should be continued or not; in fact, it replaces a guesswork system by a rational method of treatment.

Predisposing Effect of Cold in Experimental Tetanus.

On May 18th at the Biological Society M. Ciuca gave an account of some recent experiments with regard to tetanus. He first reminded his audience that the subcutaneous injection of tetanus spores which have been heated to 80° C. is innocuous, and that M. Vincent has shown that exposing the inoculated animals to excessive heat suppresses their resistance and determines the appearance of general tetanus. M. Ciuca has arrived at analogous results by submitting mice to cold. Immediately after being exposed to a temperature of 2° C. for one hour they were each injected with ¼ cubic centimetre of tetanus culture eight days old that had been heated to 80° C. for an hour. After four days tetanus developed and immediately became general and the animals died in 16 or 20 hours. Controls inoculated with the same dose without being exposed to cold showed no sign of tetanus. The same general tetanus occurs when the inoculation with heated spores is done not before but just after the exposure to cold. To sum up, chilling mice as well as overheating them abolishes their resistance to the inoculation of heated tetanus spores.

The Prophylaxis of Scarlet Fever.

At a recent meeting of the French Society of Military Medicine M. le Rouvillois said that he had ascertained that most of the epidemics of scarlet fever in military centres were due to infection brought by soldiers returning from their New Year's leave. These epidemics occur most frequently during the month of January and it would therefore appear that if the New Year's leave were stopped it would be a valuable prophylactic measure.

Poisonous Gases in Wells.

Only recently five workmen lost their lives by gas poisoning in descending a deep well. At the meeting of the Academy of Medicine held on May 21st M. Gréhant reminded his hearers that some time ago he had recommended a very simple method of preventing these lamentable accidents. It is only necessary before the men go down to lower a cage containing some small animal, such as a guinea-pig or a rabbit. If the animals die it shows that the air of the well is irrespirable by human beings.

Obituary.

Dr. Féré, whose death was recently announced, was a neurologist whose attention was at the beginning of his career directed towards surgery. The influence of Charcot, however, and the light which he threw upon the pathology of nervous diseases, attracted Féré into a different path. Early in his professional life he was appointed physician at Bicêtre where he remained to the end of his days. He was a man of wide research and of flexible intellect while he wrote much. His chief published works were "The Pathology of the Emotions," "The Neurotic Family," "Degeneration and Criminality," "Animal Magnetism," "The Evolution and Dissolution of the Sexual Instinct," "The Various Forms of Aphasia," and "The Home Treatment of the Insane" (*dans les familles*). His researches into the subjects of teratology and experimental teratogeny were a marked portion of his life's work and will be the means of keeping his memory green in the scientific world.

June 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Use of Tuberculin as a Test for Tuberculosis in Children.

AT a recent meeting of the Berlin Medical Society Dr. von Pirquet of Vienna read a paper on the Diagnosis of Tuberculosis in Children by Cutaneous Inoculation of Tuberculin. He said that after vaccination the reaction leading to immunity became visible as a rule on the second day and was fully developed within a week. Similarly, after the cutaneous inoculation of tuberculin a small papule was formed on the skin and disappeared within a week. In children under two years of age this reaction showed itself only in the case of those who were tuberculous, but at more advanced ages all children, whether tuberculous or not, showed the reaction, so that after two years of age the presence of tuberculosis could not be concluded from its occurrence. After inoculation 88 per cent. of the tuberculous children under two years of age showed the reaction, while 12 per cent. did not show it, the latter being either in a cachectic condition or suffering from miliary tuberculosis. Post-mortem examinations, which had been made in 23 cases, proved that the reaction occurred in the overwhelming majority of tuberculous children and that it was absent in non-tuberculous children. The reaction in question was a purely local manifestation, unattended by general constitutional symptoms, so that immunity was not produced.

Nephrectomy for Tuberculosis of the Kidney.

Professor Israel at a recent meeting of the Berlin Surgical Society gave an account of the after-history of the patients on whom he had performed nephrectomy for tuberculosis of the kidney. For this disease he had performed 102 operations, of which four were nephrotomies and one was a resection, the remaining 97 being cases of nephrectomy, which was of course the standard operation in the circumstances. Of the above 97 cases 11 died from the operation, ten died afterwards, and from three no replies to inquiries were obtained, leaving 73 patients whose subsequent history could be followed. In 45 of these 73 the operation was performed between two and 15 years ago, so that a definite opinion as to the results could now be formed. The patients were examined as to their weight, their general state, the function of the bladder, the possible existence of tuberculosis of the bladder, the quality of the urine, the state of the other kidney, and the cause of death in the case of the deceased. The result was that the patients had increased in weight by amounts varying from five to 45 kilogrammes, the average gain being 18·7 kilogrammes. Their general state was described in 86 per cent. of the cases as being very good, in 5·7 per cent. as tolerably good, and in 7·6 per cent. as weakly. It was proved by the investigation that nephrectomy when tuberculosis of the bladder was also present had a salutary effect on the latter condition, and from this fact it might be inferred that the disease began in the kidney and descended to the bladder. The symptoms connected with the bladder consisted in pain and in frequent micturition. The pain was relieved by the operation, so that *80 per cent. of the patients had no pain after it.* The frequency of micturition, which in 85 per cent. of the cases was abnormally high, became so much less that after the operation it was normal in 60 per cent., while in 11 per cent. more a considerable improvement followed, so that 71 per cent. of the patients were distinctly benefited by the operation. In two cases of bilateral tuberculosis of the kidney no improvement was obtained. The causes of the cystic troubles in tuberculosis of the kidney were not the same in the normal and in the tuberculous bladder respectively. In a normal bladder these troubles arose from the kidney by irritation caused by the secretion of the affected kidney and they disappeared immediately after the removal of that kidney. In a tuberculous bladder, however, the improvement depended on a diminution of the tuberculous process therein, as might be proved by cystoscopy and by the disappearance of tubercle bacilli from the urine. The improvement of the cystic troubles took place much later than in a healthy bladder and corresponded with the extent of the tuberculous process within the bladder. If only a small portion of the bladder was attacked the patient's control over it became good in 75 per cent., but in diffuse tuberculosis of the bladder control became good in 31·5 per cent. only. Even when the urine had become normal troubles of micturition might continue either from a shrinking of the organ after the tuberculous portion had healed up or from psychical causes. The other kidney when healthy at the time of the operation did not become tuberculous afterwards. In cases where tuberculosis developed afterwards in the other kidney latent germs of the disease had been present already. The other kidney was no less resistant than before, as was proved by the fact that two cases of Bright's disease happening in the remaining kidney ran an exceptionally easy course. Among the patients treated by Professor Israel there were eight who became pregnant and had 15 normal deliveries and two abortions, without any complication attributable to the kidney. Of the ten deaths which were not caused by the operation itself one was due to cancer of the rectum, five to tuberculosis of different organs, three to non-tuberculous affections of the uro-genital system, and one to some unknown cause. The deaths from tuberculosis included three from acute miliary tuberculosis, one from tuberculous meningitis, and one from tuberculosis of the remaining kidney. The non-tuberculous affections included one case of amyloid degeneration of the abdominal organs, one of chronic septicæmia, and one of ascending pyelonephritis. Death occurred in five cases after three months, in one after eight months, in one after 13 months, and in one after eight years. In 62 per cent. of the deaths the patients succumbed to secondary affections which were present at the time of the operation. These patients would possibly have been saved by a more early operation. From the fact that the results were the better the sooner the operation was performed, Professor Israel inferred that spontaneous recovery was almost impossible and that until an internal remedy against tuberculosis of the kidney was discovered nephrectomy should be performed as soon as a tuberculous affection of one kidney was ascertained.

June 3rd.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

A Nobly Earned Jubilee.

ON May 26th, in Milan, in the great hall of the "Federazione delle Società Scientifiche," before a numerous assembly of medical men, nature-students, and members of liberal callings, including many distinguished citizens and ladies, was celebrated the fiftieth anniversary of the medical graduation of the Senator Dr. Malachia De Cristoforis. Letters of sympathy were read from men of light and leading all over Italy, after which Dr. Carlo Forlanini, professor of clinical medicine in the University of Pavia, opened the business of the day with an address in the name of the "Associazione Sanitaria" to the Senator De Cristoforis as a man illustrious in science and exemplary in citizenship. This was followed by a speech from the assessor Signor Menozzi conveying the thanks of the city of Milan to the "hygienist and sociologist" conspicuous for his philanthropy and his patriotism. After him came the "oraison de circonstance" of Dr. Luigi Veratti who evoked rounds of applause by an eloquent review of the duty-doing, self-denying life of the hero of the day—a life devoted to the welfare of the community from the humblest to the highest, a life which had been "coincident and co-efficient" with the elimination of the ailments of the artisan and of the "accidents" besetting labour, as well as with notable success in the crusade against tuberculosis and alcoholism. A magnificent album, artistically illuminated and framed, containing the autographs of a long list of admirers among the citizens and professional men of Milan was thereafter presented to the Senator Dr. Malachia De Cristoforis, who made a brief, a touching, and a singularly effective acknowledgment of the honour conferred upon him. "With the people I have shared grief and joy. At the people's side I will be so long as I live." These were his closing words, after which he asked permission to read the following: "Honourable Senator, risen again to new and long life, thanks to your great skill and kindness, I associate myself, from the depth of my heart, with the tokens of affection and esteem of your admirers, and I beg you to receive the expression of my undying gratitude. Your very humble servant, Teresa Parravicini (widow and laundress), your patient at the Ospedale Maggiore in 1872, who still enjoys excellent health." And with this dramatic episode the proceedings came to an end.

A Town of 1700 Inhabitants without a Medical Man!

Sardinia divides with Sicily the claim to be the "Cinderella of Italy," and yet either of them might be made the Island of Prospero. But misgovernment and maladministration haunt them like a twin Caliban, so that from being the *cella penaria* (the granary) of ancient Rome they can hardly keep their own inhabitants from starvation. Just listen to what I learn from Sassari, the northern capital of Sardinia and seat of a university. The population of Santa Maria d'Arzaghena, in consequence of the death of several "puerpere" for want of medical aid, has risen in something like rebellion against the authorities which had promised it the "medico condotto" (divisional practitioner) to which it was entitled. Months have passed and yet the township in question, with its 1700 inhabitants maintaining a life-and-death struggle against poverty and malaria, is still without a medical man. On May 31st, braving every obstacle presented by roads that are little better than bridle-paths, the chief men of the township, after 19 hours' march, waited on the prefect of Sassari, and in words of simple, touching eloquence appealed to him to do something in face of the mortality which has now reached an appalling percentage, and which, unless brought under by effective measures, will rouse the population to deeds of violence. What the prefect's response has been I have yet to learn, but such cases as that of Santa Maria d'Arzaghena are common enough to make Italians inquire, somewhat sadly, whether the "new order" is really an improvement on the "old" or whether Italy can, with peace to her own conscience, pose as a "Great Power" with so much domestic misery unrelieved.

Tuberculosis in the Etiology of Nervous and Mental Ailments.

The Genoese school is honourably identified with medical psychology and prominent among the cultivators of that field is Dr. Morselli, professor of clinical psychiatry in the University. A worthy inheritor of the name, himself an assistant in the medico-psychological clinique, Dr. A. Morselli, has issued a careful and eminently instructive volume under the title "La Tubercolosi nella Etiologia e nella Patogenesi delle Malattie Nervose e Mentali." As throwing fresh and clear light on a theme still obscure but fraught with interest to pathologist and practitioner alike, Dr. Morselli's treatise (Torino: Unione Tipografico-Editrice, 1 vol., 1907) is to be recommended as worthy of translation into English and thereby of a yet larger public than that to which it primarily appeals.

Professor Maragliano's Jubilee.

As I write, a correspondent informs me of another incident connected with the Genoese school—the celebration of the "professorial jubilee" of Dr. Edoardo Maragliano who holds the chair of clinical medicine. Dr. Maragliano has long been an indefatigable worker in the field of tuberculosis, and, associated with his name, a yearly prize will be instituted for the best contribution to the etiology, pathology, and treatment of tuberculous disease. King Victor

Emanuel III. contributes 1000 francs (£40) to the fund required for it. The jubilee, I may add, will be celebrated on June 22nd.

June 1st.

COPENHAGEN.

(FROM OUR SPECIAL CORRESPONDENT.)

The Bacteriology of Antarctic Soil.

Dr. E. Ekelöf has published his investigations into the number of bacteria present in the soil of the Antarctic region made during the stay at Snow Hill of the Swedish Antarctic Expedition in 1901–04. He found a relatively abundant bacterial flora but only in the uppermost five or ten centimetres of the soil. During the cold "winter months," February to November, the number of bacteria in this stratum was on an average 7000 per cubic centimetre. But during the two less cold "summer months," December and January, the number rapidly increased and reached its maximum in January, when it became ten times as high as it was during the coldest months. A peculiarity of the Antarctic bacteria was their very slow growth on culture media, often more than a week being needed to make them appear as macroscopically visible colonies. Another interesting fact about them was that none of them were able to liquefy gelatin and that none of the common bacteria of putrefaction were found. As a result of this it proved possible to keep the flesh of fowl and seal hanging in the open air the whole year round, even during the summer months with their strong sunshine, without the least sign of deterioration of the meat appearing. Dr. Ekelöf is not prepared to state whether pathogenic bacteria are present in the soil of the Antarctic region, but he found none and he thinks that the following circumstance is opposed to the likelihood of their presence. During the two years' sojourn of the expedition at Snow Hill not one of the members suffered from any of the common diseases arising from cold (catarrh, angina, bronchitis, laryngitis, pneumonia, pleurisy, and articular rheumatism). But as soon as they came into the mild climate of South America on their way back these diseases began to occur amongst them.

A Medico-legal Problem in Syphilology.

About one year ago the Danish legislative body carried a law regulating prostitution in Denmark. Before that time a control was established with obligatory medical examination of the *puellæ publicæ*. The new law provides that prostitution is not punishable as such, but the police are authorised to punish as vagabonds females who cannot convince the authorities of their being able to earn their livelihood in a decent manner. The law provides further that all persons, rich or poor, suffering from venereal diseases have a *right* to be cured *gratis* by certain practitioners who in Copenhagen were to be appointed *ad hoc* and paid by the municipality. This regulation, excellent as it is in itself, has had some disagreeable consequences to the profession. At the date at which the law came into force the best-trained specialists abstained from applying for the appointments because they would not run the risk of holding them in company with other not specially trained colleagues, for fear that the public should regard this as a sort of official recognition of the said colleagues as specialists. Only general practitioners were therefore appointed, but during the last six months the public has profited by its right to free treatment to such an extent that the actual specialists have hardly seen any venereal patients. The attention of the Copenhagen Medical Association has been drawn to this abnormal situation, and it is hoped that the association will succeed in inducing the authorities to arrange the important affair in a more reasonable way. It is of the greatest importance that this first instance of a sort of monopolising by the State of certain branches of practice should not be carried out in such a manner as to imply a pecuniary loss to the profession. Should such a thing happen it might prove a very serious precedent, as rumours are afloat that the Government is planning the substitution of a restricted number of physicians appointed and paid by the State in the place of the many hitherto privately practising sick-club doctors. As the sick-clubs, friendly societies, &c., comprise the majority of the population of Denmark, and as the State would, of course, pay as little as possible, it is well that the profession should be fully aware of the possible danger.

May 27th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Coroner's Jury Censures Physicians.

THE recent death of a woman who was under the care of two "Christian Science" healers in this city, but who was not seen by a legally qualified physician capable of giving a certificate of death, led to a coroner's inquest. The result of the inquiry was the exposure of the practice of some medical men of giving certificates of death in cases where the deceased had been attended exclusively by so-called "Christian Science" healers. The jury, many of whom were physicians, returned among other items of their verdict the following: "We find that a number of medical doctors in New York City make it a practice to furnish death certificates for persons who die under so called Christian Science treatment, thus enabling Christian Science practitioners to evade the laws of the State of New York in their so called treatment, and we respectfully call the attention of the Department of Health of New York City and the District Attorney of New York County, and the Medical Society of New York County to the practice of such physicians and request them to take all necessary steps required by law to put a stop to such practice and punish the perpetrators thereof."

International Congress on Tuberculosis.

The National Association for the Study of and Prevention of Tuberculosis has fixed upon the last ten days of September and the first ten days of October, 1908, for the meeting of the Congress on Tuberculosis to be held at Washington. This time is most fitting to foreign delegates. The attendance promises to be very large and every effort will be made to secure success for the work of the Congress. A tuberculosis exhibition will be created which will surpass any similar exhibition in this country. The various departments of the Government have become interested and will coöperate with the association. The latter will provide a fund of $100,000 with which to finance the Congress. Meantime, the American Anti-Tuberculosis League will hold its annual meeting at Atlantic City from June 1st to 4th, 1907, at the same time as the meeting of the American Medical Association. The two subjects for special discussion will be "Tuberculosis in the Negro Race" and "Tuberculosis and Milk."

Health in the Canal Zone.

The improved health in the Canal zone under the strict administration of sanitary regulations, prepared and enforced by a military *régime*, is attracting wide attention. No person could have been more thoroughly qualified for the position of chief sanitary officer, both by education and experience, than Colonel Gorgas of the United States Army. He had been very prominent in establishing and enforcing sanitary regulations in Cuba by which yellow fever had been exterminated in that island where it seemed to be indigenous. The results of his work in the Panama district have been well-nigh marvellous, as the following recent reports show. Since August last the number of sick among the employees has steadily decreased until now it is 19·40 per 1000, as against 33·72 in August. Among the 4600 white employees there were only two deaths from disease during the month of March, equivalent to an annual rate of 5·17 per 1000. Among the 1200 American women and children living in Canal Commission quarters there was not a single death and little sickness existed.

Places maintained by Abortionists are Public Nuisances.

An abortionist recently attempted to escape conviction of the charge of maintaining a public nuisance on the ground that there was no adjudicated case in which it has been held that the maintaining of a house for the purpose of practising the vocation of an abortionist constitutes a nuisance. The Appellate Court of New York, however, held that at common law it would have been, and under the provisions it is, a nuisance for a person by public advertisement to invite and receive a class of the public to his premises for the purpose of violating the laws of the State, as was done in this case; this constitutes "crime against the order and economy of the State by offending public decency."

Commitment of Suspected Insane.

One of the first-fruits of the notorious trial of Thaw is the introduction into the Legislature of a Bill which makes provision for the commitment of a person charged with felony to a State hospital for the insane for the purpose of inquiry as to his sanity. The commitment may be made on the request of either his attorneys or the prosecuting attorneys, and for a term of not less than three nor more than six weeks. It is alleged, in opposition to the measure, that the time is too limited and that an asylum for the insane should not be selected. In regard to time, it is stated that in many cases an insane person might conceal for that length of time his peculiar delusion, illusion, or hallucination, or, on the other hand, a person might successfully feign a form of insanity for this period. The asylum for the insane is objectionable, for if certified as not insane the odium of the commitment to such an institution would ever after cling to him. The Bill is generally heartily approved as an improvement on the present court procedure as illustrated in the Thaw case.

Inspection of Medical Schools.

The council of the American Medical Association has recently instituted an inspection of the medical schools of the United States for the purpose of determining the exact character of their work and to classify them on a civil service basis. The council reports that there are 160 medical schools in the country, which is nearly the number in Great Britain, Germany, France, and Austria combined. They were found to represent every grade, from the very highest, as high probably as those of any country in the world, to the very lowest, a number being little better than diploma mills. The council states that some schools are absolutely worthless, being without equipment for laboratory teaching, without dispensary or hospital facilities. Some were no better equipped for teaching medicine than a Turkish-bath establishment or a barber's shop affords. Many of them are little more than quiz classes, in which men are drilled to enable them to pass examining boards of the States. The council concludes that it is in the power of the State examining boards and the organised profession to place American medicine on an acceptable basis by requiring a higher grade of educational qualification of those entering the schools. These State boards should agree upon a standard of what shall constitute a medical college in good standing and enforce that standard in their examinations of applicants.

Medicinal Foods.

The Council on Pharmacy and Chemistry of the American Medical Association has been investigating the nutritive value of so-called "medicinal foods." The results of this inquiry are as important to the profession as are the investigations, by the same body, of the composition and medicinal value of the various proprietary drugs supplied by manufacturing firms. It is demonstrated that large numbers of the most popular of these foods for the sick have little or no food value. Alcohol is in many instances the most potent factor in liquid preparations. In others the ingredients advertised are either wanting or are worthless as food.

American Association for the Promotion of the Hygiene of Schools.

At a recent conference held in Washington it was decided to organise a National Association for the Promotion of the Hygiene of Schools. The object of the association is to secure the coöperation of all workers in charity and teachers in the public schools in the improvement of the hygienic condition of the schools of the several States. It is believed to be impossible for the schools to take full advantage of their opportunities for the children's welfare without the knowledge of the work of the dispensaries, relief and fresh air agencies, and other forms of promoting the health of this class by workers in charity. It is also deemed of great importance that the latter, in order to do their work intelligently and satisfactorily, should be brought into close connexion with schools and the health authorities. The association will be represented in the Conference on School Hygiene which will assemble in London in August.

May 25th.

DONATIONS AND BEQUESTS.—The treasurer of the Brompton Hospital for Consumption has received £100 from "A. B.," Putney, and a donation of £500 from the trustees of Smith's (Kensington Estate) Charity; the Royal London Ophthalmic Hospital and Charing Cross Hospital have received donations of £500 each from the trustees of Smith's Charity; and the treasurer of the London Fever Hospital has also received a donation of £300 from the trustees of Smith's Charity.

Obituary.

ALFRED SQUARE COOKE, M.R.C.S. ENG., L.S.A.

Mr. Alfred Square Cooke died at his residence, Badbrook House, Stroud, on June 1st, in his sixty-fifth year. He received his medical education at St. Bartholomew's Hospital, becoming qualified as L.S.A. and M.R.C.S. Eng. in 1863 and 1864 respectively. In 1865 he was appointed house surgeon to the old Stroud Hospital. For two years he resided at the hospital, but subsequently he removed from the institution and commenced private practice, though he continued to act as house surgeon for another nine years. It was mainly through the efforts of Mr. Cooke that the present well-equipped and commodious hospital was opened in 1875. The same year he was elected honorary surgeon to the institution, which post he resigned in January, 1906, when he was appointed honorary consulting surgeon. In September, 1906, he was presented with a silver salver and a cheque for 120 guineas from the residents of Stroud and the district, in grateful recognition of 40 years' devoted service to the hospital. Mr. Cooke was a former president of the Gloucestershire branch of the British Medical Association. He at one time had a very extensive practice. He was for 37 years medical officer to the Stroud union workhouse and was also surgeon to the Post-Office and Admiralty. Mr. Cooke will be much missed in Stroud, where he was highly esteemed, and great sympathy is felt there with his widow and seven children.

Medical News.

UNIVERSITY OF LONDON.—At examinations held in May the following candidates satisfied the examiners:—

M.B., B.S. EXAMINATION.

Honours.—*Harold Garfield Bennett, St. Thomas's Hospital; ‡Gerald Tyler Burke and ‖Bertram Walter Cherrett, St. Bartholomew's Hospital; §John Henry Farbstein, University College; †John Athelstan Braxton Hicks, Westminster Hospital; §William Henry Miller, Guy's Hospital; *†‡§Henry John Nightingale (University medal) and †Alfred Charles Foster Turner, St. Thomas's Hospital; and *Charles Wilfred Vining, St. Mary's Hospital.

* Distinguished in Medicine. † Distinguished in Pathology.

‡ Distinguished in Forensic Medicine and Hygiene.

§ Distinguished in Surgery.

‖ Distinguished in Midwifery and Diseases of Women.

Pass.—Godfrey Frederick Ely Allison, Guy's Hospital; Charles James Armstrong-Dash, St. Bartholomew's Hospital; John Stanley Avery, University College, Bristol; Alfred Ball, University College; Alec Barber and Tom Bates, St. Bartholomew's Hospital; Ella Beales, Sylvia Rose Margaret Blackstone, and Mary Alice Blair, London (Royal Free Hospital) School of Medicine for Women; John Frederick Broughton, University College; Stanley William Randolph Colyer, Charing Cross Hospital; Eustace James Carey Dicks, St. Mary's Hospital; Kenelm Hutchinson Digby, Guy's Hospital; Allan Baines Fearnley and John Ferguson, St. Bartholomew's Hospital; Kenneth Mayoh Gibbins, St. Mary's Hospital; Elliott Thornton Glenny, St. Bartholomew's Hospital; Samuel Lewis Graham, University College; Arthur Donald Griffith, King's College; Leopoldine W. D. Griffiths, London (Royal Free Hospital) School of Medicine for Women; Sidney Wilfred Grimwade, St. Thomas's Hospital; George Hamilton, Guy's Hospital; Horace Bryden Hill, St. Bartholomew's Hospital; Frank Norman S. Hitchcock, St. Thomas's Hospital; Frank Percival Hughes, Guy's Hospital; Gwilym Gregory James, Westminster Hospital; Sidney Herbert James Kilroe, Victoria University; Herbert Stanley Knight, Guy's Hospital; Janet E. Lane-Claypon, D.Sc., London (Royal Free Hospital) School of Medicine for Women; Alexander Manuel, St. George's Hospital; Marian Mayfield and Emily Helen Morris, London (Royal Free Hospital) School of Medicine for Women; Frederic Miller Neild, St. Thomas's Hospital; Geoffrey Eugene Oates, St. Mary's Hospital; Catherine Payne, London (Royal Free Hospital) School of Medicine for Women; August Frederick Perl and Arthur John Scott Pinchin, St. Thomas's Hospital; John Mackay Plews, St. Bartholomew's Hospital; David Ranken, University of Durham; Frank Douglas Roberts, London Hospital; Cecil Frederick Robertson, Middlesex Hospital; Francis William Schofield, Victoria University; Henry Joste Smith, Guy's Hospital; Ronald Ernest Todd, St. Thomas's Hospital; James Aubrey Torrens, St. George's Hospital; Stuart William Jackson Twigg, University College; Joseph Unsworth, University of Liverpool; Thomas William Wade, Charing Cross Hospital; Norman Hamilton Walker, St. Bartholomew's Hospital; Thomas Edgar Walker, University of Liverpool; Robert James Waugh, St. Bartholomew's Hospital; David Wilson, St. Thomas's Hospital; Alfred William George Woolforde, St. Bartholomew's Hospital; and Carl Ernst Zundel, London Hospital.

The following candidates have passed in one of the two groups of subjects:—

Group I.—Leonard Christopher Blackstone, University College; Emily Susan Cooke, London (Royal Free Hospital) School of

Medicine for Women; Reginald Lionel E. Downer, St. Bartholomew's Hospital; Thomas Scarbrough Dudding, London Hospital; Edward Henry Hugo, Charing Cross Hospital; Mary O'Brien, London (Royal Free Hospital) School of Medicine for Women; Evelyn Henry Bardens Oram, St. George's Hospital; Edgar Nelson Ramsbottom, Victoria University and University of Durham; and Harry Gordon Webb, St. George's Hospital.

Group II.—Laurence Ball, University of Birmingham; Walter Rowley Bristow, St. Thomas's Hospital; Thomas Edmund Ashdown Carr, Guy's Hospital; Herbert Stanley Chate, B Sc., St. Mary's Hospital; David Morgan Davies, Charing Cross Hospital; Carel C. Alexander De Villiers, Guy's Hospital; Hendrik Houwink, London Hospital; Douglas Walter Hume, St. Bartholomew's Hospital; Alfred John Lee, University College; George William Lloyd, St. Bartholomew's Hospital; Clement Lovell, University College; John Clarke Mead, St. Bartholomew's Hospital; Emily Mary Spencer Mecredy, London (Royal Free Hospital) School of Medicine for Women; Edgar Lionel Robert Norton, Guy's Hospital; John Paulley, St. Bartholomew's Hospital; John George Phillips, University College and Guy's Hospital; Edward Selby Phipson, University of Birmingham; Russell John Reynolds, Guy's Hospital; Marie Simpson, London (Royal Free Hospital) School of Medicine for Women; Frank Standish, London Hospital; Robert Yelverton Stones, London Hospital; and Reginald Stephen Townsend, St. Bartholomew's Hospital.

B.S. EXAMINATION.

Pass.—John Acomb, University of Leeds; Dora Elizabeth Lidgett Bunting, London (Royal Free Hospital) School of Medicine for Women; Edward Cecil Brearey Ibotson, Guy's Hospital; Rees Phillips, Middlesex Hospital; Frank Tratman, M.D., London Hospital; and Hilda Kate Whittingham, London (Royal Free Hospital) School of Medicine for Women.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

UNIVERSITY OF CAMBRIDGE.—A grant of £150 has been made from the Balfour Fund to Mr. W. E. Agar of King's College in furtherance of his zoological expedition to the Paraguayan Chaco.—The degree of LL.D. *honoris causâ* is to be conferred on the King of Siam at a special congregation to be held by His Grace the Chancellor at Devonshire House on June 25th.—At a congregation on May 23rd the following degrees were conferred:—

M.B. and B.C.—H. F. G. Noyes, Caius.

M.B.—C. R. Crowther, St. John's; J. R. C. Greenlees, St. John's; and G. F. S. Bailey, Caius.

B.C.—A. I. Cooke, Caius; and R. F. Young, Christ's.

—The Rev. E. S. Roberts, Master of Gonville and Caius College, has been re-elected vice-chancellor for the ensuing academical year; Sir Isambard Owen, has been reappointed a governor of the University College of Wales, Aberystwyth; Mr. F. A. Potts, Trinity Hall, has keen appointed assistant superintent of the Museum of Zoology; and Mr. Keith Lucas, Trinity, has been appointed an additional demonstrator in physiology.—Courses of lectures in pharmacology, pathology, protozoology, surgery, midwifery, medicine, and hygiene will be given at the Medical School during the Long Vacation. Syllabuses and time-tables are published in the *University Reporter* of June 4th. It is proposed to institute a paper in Heat and Chemistry as an alternative to "Paley's Evidences" or Logic in the previous examination.—The Vice-Chancellor has been authorised to accept a tender for the extension of the Cavendish Laboratory of Physics at a cost of £7135. A similar extension of the chemical laboratory, at a cost of £13,500, is to be proceeded with during the summer.—Professor Bradbury, Dr. G. N. Pitt, Professor W. Osler, and Dr. Rose Bradford have been appointed examiners in medicine; Dr. W. Rivers Pollock and Professor H. R. Spencer, examiners in midwifery; and Mr. T. H. Kellock, Professor H. G. Barling, Mr. Stanley Boyd, and Mr. L. A. Dunn, examiners in surgery for the ensuing academical year.—A complimentary banquet was given to Principal Donald MacAlister on June 4th in the combination room of St. John's College.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The annual meeting of the College was held on June 1st, when a very favourable report was submitted to the Fellows. During the year 17 candidates, having passed the examinations, were admitted to the Fellowship; 73 candidates, having passed the conjoint examination with the Royal College of Physicians of Ireland, received the diploma in surgery and midwifery; 29 candidates, having passed the conjoint examination with the Royal College of Physicians, received the conjoint diploma in public health; ten candidates, having passed the examinations, received the licence in dental surgery; and 64 candidates, having passed the conjoint preliminary examination with the Royal College of Physicians, received certificates. The obituary list showed the death of six Fellows, 51 Licentiates, and three Licentiates in Dental Surgery. There are at present living 15 Honorary Fellows, 466 Ordinary Fellows, 2908 Licentiates, six Honorary Diplomates in Public Health, 269 Ordinary Diplomates in Public Health, and 531 Licentiates in Dental Surgery.—A meeting of the College was held on June 3rd when the following were elected: President: Mr. Henry R. Swanzy. Vice-President: Mr. John Lentaigne. Council: Mr. William Stoker, Sir Charles A. Cameron, Mr. John B. Story, Sir Charles B. Ball, Sir Thomas Myles, Sir Arthur Chance, Dr. Richard D. Purefoy, Sir Lambert H. Ormsby, Mr. Henry G. Sherlock, Dr. R. Bolton McCausland, Mr. John S. M'Ardle, Mr. Robert H. Woods, Dr. R. Lane Joynt, Dr. Thomas Donnelly, Mr. William Taylor, Dr. Edward H. Taylor, Mr. R. Charles B. Maunsell, Dr. William Ireland de C. Wheeler, and Mr. D. Edgar Flinn.

DURHAM UNIVERSITY MEDICAL GRADUATES' ASSOCIATION.—The annual meeting and dinner of this association took place on May 31st. The former was held at the rooms of the Medical Society of London at 4 P.M., when the new scheme for the reconstitution of the University, as announced in the Draft Act, was discussed at considerable length and a motion unanimously carried in favour of the measure, subject to certain modifications in details on the lines suggested by the Northern and Southern councils of the association. The annual dinner, held at the Imperial Restaurant, Regent-street, London, W., took place in the evening at 7.30. The newly elected president, Dr. Charles W. Chapman, occupied the chair, supported by 63 members and guests. Excellent music was provided under the direction of Miss Jessica Leeson and contributed in no small degree to the success of the gathering.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on May 30th, Dr. F. H. Champneys being in the chair. A letter was received from the Privy Council transmitting an Order in Council approving the revised rules for the period ending Sept. 30th, 1909. A letter was considered from the Privy Council transmitting a copy of a letter from the medical officer of health of the city of Manchester with regard to a proposed additional rule that midwives should be compelled to take the temperature of patients at every visit. The Board decided that the Privy Council should be informed that the proposal will receive the careful consideration of the Board on the next revision of the rules. A letter was read from Mr. Framjee Gotla inquiring whether a teacher who has instructed a pupil by correspondence only is entitled to sign the certificate of instruction on the pupil's behalf. The Board decided that Mr. Gotla be informed that the terms of the certificate of instruction, and in particular the words "attended" and "lectures," appear to preclude the possibility of the signature of the certificate by a teacher whose three months' course of instruction has been given wholly or partly by correspondence. The following item in the report of the Midwives Act amendment committee was not reached before the adjournment of the Board: the committee recommends the Board to resolve that it is desirable to amend the Act so as to provide, among others, for the following alteration:—

> Local supervising authorities and boards of guardians to be enabled to pay reasonable fees to medical practitioners sent for in emergencies in accordance with the rules of the Board, with power to recover the fee from the patient or her husband in suitable cases.

INTERNATIONAL NURSING CONFERENCE.—An International Nursing Conference will be held in Paris on June 18th, 19th, and 20th under the auspices of the International Council of Nurses. The General Director of the Assistance Publique, M. Mesureur, will act as president of the first session of the Conference and will give an address on the Work of the Assistance Publique for Nursing Education. He will be supported by Dr. Bourneville, Madame Alphen Salvador (who has established a training school for nurses in Paris on modern lines), Dr. Lande (administrator of civil hospitals in Bordeaux), and Dr. Anna Hamilton. Other sessions of the Conference will deal with the Practical Training of Nurses; the Public and Social Responsibilities of the Nurse; Professional Organisation; International Nursing Reciprocity, when a discussion on the opportunities for nurses in a foreign land will be opened by Miss C. Elston, an English trained nurse, now *directrice* of the Civil Hospital and Training School for Nurses at Tondu, Bordeaux; and the History of the Professional Nursing Press, when representatives of the German, Dutch, Danish, French, American, British, Canadian, and Australian nursing papers will take part in a debate. The members of the Conference will be received by the Municipal Council of Paris at the *Hôtel de Ville*, by the

Assistance Publique at the New Nursing College at the Salpêtrière Hospital, and at Chantilly by the Baroness James de Rothschild, while other invitations to visit hospitals and kindred institutions have been received.

Longevity.—Mrs. Mary Davies of Ystradmynach attained the 103rd anniversary of her birthday on May 24th.

Medical Barristers.—The following names appear in the list of those who are to be "called" during Trinity Term, 1907:—By the Middle Temple: Mr. M. I. Fincane, M.R.C.S. Eng., L.R.C.P. Lond. By Lincoln's Inn: Mr. Meredith Young, M.D., M.S. Edin., D.P.H., of Stockport; and Mr. T. W. N. Barlow, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. By the Inner Temple: Mr. A. R. Henry, of Guy's Hospital. Amongst those listed for call to the bar at the King's Inns, Dublin, to-day (Saturday, June 8th) is Mr. J. C. McWalter, M.D. Brux., F.F.P.S. Glasg.

Hampstead Garden Suburb: a Novel Foundation Stone-laying.—The committee of the Hampstead Tenants' Society has lost no time in getting to work The first sod of the new building adventure was only cut by Mrs. S. A. Barnett on May 2nd, but the committee was able to invite each of the first 100 members of the society to lay a foundation-stone on Wednesday, June 5th. In connexion with the ceremony Mrs. Henry Jephson, the first member of the society, invited all the members to tea in the tea-gardens of the "Royal Oak" Hotel, Finchley-road. The Bath Stone Firms, Limited, gave the society 100 foundation-stones, each bearing the initials of a member, while a silver-plated trowel was handed to each member, with his or her initials and number in the society engraved on it, with which to perform a percentage of the ceremony, whose collective form was designed by the committee to demonstrate that the houses on their part of the estate are owned collectively. Mr. Henry Vivian, M.P., presided over the stone-laying ceremony, which was, unfortunately, performed for the most part in drenching rain.

The Glasgow University Club Dinner.—The Glasgow University Club celebrated its twenty-first year of existence by a highly successful dinner at the Trocadéro Restaurant, London, W., on May 31st. Principal Donald MacAlister, in academic costume, occupied the chair and on his right hand was the Right Hon. Lord Kelvin, O.M., G.C.V.O., President of the club for this year. The principal guest was Sir Lauder Brunton. There was a large and distinguished gathering which included Sir Henry Craik, Sir John Batty Tuke, M.P., Sir Thomas McCall Anderson, Sir John Tweedy, Professor J. M. Thomson, Professor John Ferguson, Professor A. H. Young, Professor R. Latta, Professor William Jack, Professor W. P. Ker, Professor J. Harvard Biles, Professor W. S. McCormick, Professor D. W. Finlay, and Professor Blacklock Henderson, the Rev. David McEwen, D.D., Dr. George A. Heron, Dr. D. C. McVail, Dr. C. O. Hawthorne, Dr. Craig Henderson, Dr. Guthrie Rankin, Dr. R. Bishop, Dr. James McClure, Mr. J. W. T. MacAlister, and many others, the majority of whom were medical men. Principal MacAlister, in giving the toast of "The University and Club," referred to his unexpected translation from Cambridge on the lamented death of Principal Story. After enumerating some of the many distinguished sons of the University of Glasgow who have made a name for themselves in England and abroad in many spheres of work he made an appeal on behalf of the Students' Union at Glasgow, which was the sole expression of the University's solicitude for her students outside the class-rooms. An extension of its buildings was urgently needed and he appealed to all members of the club to help the students to raise the necessary £2500. If all who had succeeded in life through bursaries held at Glasgow would repay a part of their obligation another 2000 students might be provided for. Lord Kelvin, president of the club, on rising to reply, received an ovation. In a very vigorous and genial speech he said that from his earliest associations he could claim to be a true child of the University. He strongly advocated the acquisition of Latin and Greek as the first foundations of education and he rejoiced that the Scotch universities still insisted on the "inoculation" of all their students with at least small doses of logic and metaphysics before they took up the studies of their special faculties, and he humorously showed the advantages that they derived from the consequent "immunity" against philosophic errors in after-life. He insisted that the function of a university was to teach its students knowledge other than that for which they had a natural taste. Sir William Ramsay proposed "The Guests," on whose behalf Sir Lauder Brunton and Dr. George Ogilvie replied, and The Chairman's Health was given by Dr. Heron. During the evening a telegram was sent to Lord Lister cordially expressing the affectionate regard in which the club held him and assuring him of its gratitude for the interest which he had always shown in the club, of which he is an original member. The club forms an important link between the University of Glasgow and its graduates in England. Its prosperity is proved by a satisfactory balance-sheet for the last year.

Golden Wedding Celebration.—Mr. and Mrs Samuel Stretton of Hampton House, Droitwich, celebrated their golden wedding recently at the Town Hall, Kidderminster. Among the many presents received were a large rose bowl from the subscribers to the Infirmary and Children's Hospital, a golden cup from their children (of whom there are 12), and a chased golden cream jug and sugar castor, the gift of the Mayor and Mayoress. Mr. and Mrs. Samuel Stretton went to Kidderminster soon after their marriage and removed to Droitwich a few years ago. They have always taken great interest in the welfare of the Kidderminster Infirmary, and the sick and suffering poor of the town and neighbourhood possess in them true friends. Soon after qualifying as M.R.C.S. Eng. in 1854 Mr. Stretton saw service as a volunteer in the Crimean war, and on his return home he soon acquired a large general practice. He is senior consultant surgeon of the Kidderminster Infirmary (at which institution one of his sons, Mr. Lionel Stretton, is the present senior surgeon) and a justice of the peace for the county of Worcester.

Medical Golf Tournament.—The Medical Golfing Society held a tournament on May 30th at Burnham Beeches Golf Club, the links of which club had been kindly placed at the disposal of the society. The challenge cup presented by Mr. Henry Morris for the best score against Bogey under handicap was won by Dr. F. J. Smith, who was "all square" with Bogey. Dr. Smith also secured the gold medal presented by the Medical Golfing Society to the winner of the cup, and he further carried off the first prize in Class II. for players with handicaps over 12, the second prize being gained by Dr. Seymour Taylor with a score of 1 down to Bogey. The prize offered for the best last 9 holes v. Bogey in Class II. was awarded to Dr. H. Lambert Lack with a score of 1 up. Class I. for players with handicaps of 12 and under attracted a numerous entry and resulted in Dr. R. J. Probyn-Williams, Dr. E. F. Buzzard, and Dr. C. M. Anderson, handing in scores of 1 down to Bogey. The best score v. Bogey for the last nine holes in Class I. was won by Mr. Harold A. Kidd who was 1 up. The foursome sweepstake was won by Mr. T. H. P. Kolesar and Mr. W. Rushton with 2 up on Bogey, the second place being tied for with all square by Mr. G. C. Bell and Mr. T. M. Young, Mr. H. M. Rigby and Mr. F. B. Cooper, and Dr. C. M. Anderson and Mr. J. R. Walker.

Medico-Legal Society.—Mr. Justice Walton presided over the first banquet of the Medico-Legal Society held on June 4th at the Holborn Restaurant, London, W.C. Sir W. J. Collins, M.P., in proposing the "Bench and Bar," suggested the advisability of founding a school of forensic medicine for the more precise study of medical jurisprudence. The toast was responded to by Lord Justice Kennedy who, in discussing the question of sentences for crimes in relation to lunacy and uncontrolled impulses, pointed out that the truest humanity did not always exist in unlimited mercy, and by Mr. W. English Harrison, K.C., who said that the common object in life for doctors and barristers was the elucidation of truth. "The Medical Profession" was submitted by Sir E. Clarke, K.C., who contrasted the comfortable conditions in which lawyers worked and the unfavourable circumstances that attended the labours of doctors in many instances; he expressed surprise that the medical profession had so many recruits and concluded that young men joined it because of their inclination to occupy their lives in doing good. The toast was acknowledged by Sir R. Douglas Powell, who showed how closely the two professions of law and medicine came into contact, especially in lunacy and insurance work, and by Mr. Henry Morris, who described the efforts now being made to prevent unqualified medical practice. Sir Edward R. Henry, in proposing the toast of "The Medico-Legal Society," explained fully the possibilities of the use of finger-prints, not only for police purposes, but for general work. Mr. Justice Walton, in replying, observed that the society could with advantage take up the subject of sanitary legislation. The toast of "Our Guests," given by Dr. F. J. Smith, was responded to by his Honour Judge J. A. Rentoul, and after Mr. Justice Walton had suitably replied to the toast of "The President," submitted by Mr. W. Blake Odgers, K.C., the proceedings terminated with hearty congratulations to the honorary secretary, Mr. R. Henslowe Wellington, on the success of the evening.

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—	Year.					
	1900	1901	1902	1903	1904	1905
Number of cows examined	20,076	22,604	26,392	29,870	29,303	32,309
Number of cows affected with tuberculosis of the udder	54	46	40	40	37	43

These figures, however, are only approximate and do not represent the exact number of cows certified as affected by tuberculosis of the udder, which I am unable to obtain. I have no information as to how the cows certified were disposed of.

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	1906	588	126		1906	183	153
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	1905	1127	128		1905	91	196
	1906	1086	131		1906	91	176
Woolwich ...	1904	466	132	Liverpool ...	1897	4488	201
	1905	364	103		1900	4247	186
	1906	388	109		1904	4780	196
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	1905	873	144		1906	4145	172
	1906	904	152	St. Helens ...	1904	578	174
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Mr. CLAUDE HAY asked the President of the Local Government Board whether he could state the number of inquests held on persons who died in London workhouses and infirmaries during the latest year for which the figures were available; the proportion of inquests held to the total number of deaths in such institutions, and the number of inquests held on persons over 60 years of age, and the proportion to the total number of deaths over that age; whether he could say what was the general practice in regard to the holding of inquests, and what were the fees paid to medical officers and coroners in connexion therewith.—Mr. BURNS furnished a written reply as follows: I have made inquiry but I do not find that any official returns give the particulars desired by the honourable Member. The subject of coroners and inquests is not within my province but I may state that the London coroners are paid fixed salaries and that a medical man who attends an inquest on a summons from the coroner is entitled under the Coroners Act, 1887, to a fee of one guinea for attending to give evidence at an inquest at which he has made no post-mortem examination, and of two guineas for making a post-mortem examination and attending to give evidence thereon.

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The House was engaged all day in discussing Scottish votes in Committee of Supply. Several matters relating to public health were raised on the vote of £3387 for the services and expenses of the Local Government Board in Scotland.

Mr. WEIR complained of the inadequacy of medical inspection in Scotland. The sanitary conditions which prevailed in the island of Lewis, he said, called for increased vigilance on the part of the Local Government Board.

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Mr. GULLAND congratulated the Secretary for Scotland on the steps taken by the Local Government Board to check consumption. He believed that the excellent circular issued by the Board in March of last year would lead to good results. Deaths from the disease showed a decrease and he hoped the decrease would continue. The circular had asked the local authorities to adopt compulsory notification. Edinburgh was the first city to go in for it. He believed that many other authorities shrank from compulsory notification because they felt that it would expose the people who notified to a sort of boycott. He could assure the right honourable gentleman that the country agreed with [illegible] the Local Government Board for Scotland [illegible] Scotland.

Mr. [illegible] the Secretary for Scotland [illegible] in Scotland. [illegible] by the Local Government Board.

[illegible]

[illegible]

Mr. [illegible]

[illegible]

[illegible]

Mr. [illegible] the Board of Trade whether he [illegible]

[illegible]

[illegible]

Sir [illegible]

[illegible]

Mr. [illegible] the President of the Local Government Board, [illegible]

Mr. [illegible]

[illegible]

Mr. [illegible]

[illegible]

Mr. [illegible] Local Government Board [illegible]

[illegible] Bill.

Mr. [illegible] the Prime Minister whether [illegible] Public Health Bill [illegible] the Government.

[illegible]

[illegible]

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[illegible]

The Select Committee of the House of Lords which was appointed [illegible]

The [illegible] General Medical Council [illegible]

Mr. [illegible]

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Dr Macalister said that he would not give the name of the company as he did not want to advertise it

In answer to Lord Ludlow, Dr Macalister admitted that the *Dental Bill now before the committee* would allow a *number of* qualified men to form a company

Lord Ludlow pointed out that in the case *of Lord Halsbury's* Bill it was proposed that it should be unlawful for a company to carry on the profession of surgeons, *physicians, dentists, or midwives*

The Chairman: Why do the terms of the present Bill differ from the Bill brought forward by Lord Halsbury?

Dr Macalister: The legal advisers of the General Medical Council came to the decision that we should proceed on the lines of the *Bill now* before your lordships. It appeared that in the House of Commons strong representations were made on behalf of certain dental *interests to the* effect that there were perfectly legitimate corporations formed to practise dentistry on the mechanical side of the profession and they would be hampered if this absolute prohibition were insisted on. That was a matter upon which great difference of opinion existed in the dental profession Their counsel had advised them to get rid of the great mischief of treatment by unqualified persons They accordingly put forward the Dental Bill in its present form to get rid of opposition. They asked their lordships for the minimum which touched them most in order to get rid of the maltreatment of the public

Lord Knutsford: Do you approve of the sections now framed in the *Dental Bill?*

Dr Macalister So far as the sections are framed they will prevent maltreatment of the patient by the unskilled person

Lord Ludlow: In your opinion do you approve of there being such a thing as a dentist's *company?* I want your personal opinion.

Dr Macalister I certainly do not approve of it.

Mr. W. Bromfield Paterson, F R C S Eng., L D S, chairman of the Representative Board of the British Dental Association, was the next witness He submitted that the carrying on of dental work by a company did not fulfil any useful purpose other than profit to the company and was detrimental to the public interest. The companies which supplied dentures extracted teeth and did other things for preparing the mouth, but, generally speaking this was done by unqualified persons who made their practice subsidiary to the sale of dentures If that was the main object of their business it was obviously *to their interest* to take out as many teeth as possible, regardless of the patient's real requirements, in order that dentures might be sold. That that was done in the most flagrant manner was well known. In all cases dental companies advertised profusely and generally speaking were unscrupulous in making extravagant professions about the skill of their operators. By means of these statements they attracted people away from qualified men. So far as possible dental companies ought to be prohibited by law. If it was impossible to deal thus with existing companies the formation of dental companies in the future ought strictly to be prohibited. He thought that the Dental Bill before the committee ought to be strengthened in many important respects.

Mr W H. Dolamore, M R C S Eng, L.R.C P Lond., L D S, late honorary secretary to the British Dental Association, *also urged* that the Dental Bill should be made more stringent. He had *come across* many cases of maltreatment of patients by unqualified men. He had objections even to companies formed by qualified men as he feared that the proprietors of a company would in course of time become unregistered men. The best *men* in the dental profession would not form companies.

Mr A. O Curtis-Hayward, solicitor *to* the British Dental *Association, also* gave evidence. He asked that the Dental Bill should be made more strict in its terms so as to check company practice He thought that Bill would be mischievous to the extent that it gave companies any status at all. He would infinitely prefer the clauses in Lord Halsbury's Bill to the present measure

Mr Leonard Matheson, who was President of the British Dental Association last year, was *also* examined. He feared that the Dental Bill in its present form would do more harm than good It would give companies a *certain legal* status. He felt strongly that practice by companies, even *of* qualified men was detrimental both to professional and public interests and reduced the dentist to the position of a dividend making machine.

The committee then adjourned.

BOOKS, ETC., RECEIVED.

American Climatological Association, Philadelphia (Secretary and Treasurer, Guy Hinsdale, M.D, Hot Springs, Va.)

Transactions of the American Climatological Association. *For the* Year 1906. Vol. XXII Price not stated.

Ash and Co., Limited, Printers, Southwark, London, S E

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Nouveau Traité de Chirurgie Clinique et Operatoire. Publié en Fascicules sous la Direction de A. Le Dentu et Pierre Delbet. I Grands Processus Morbides Traumatismes, Infections, Troubles *Vasculaires et Trophiques, Cicatrices* Par Pierre Delbet, Professeur Agrégé à la Faculté de Medecine, Chirurgien de l'Hôpital Laennec, M Chevassu, Prosecteur de la Faculté de Medecine de Paris A. Schwarz, Ancien Prosecteur, Chef de Clinique *Chirurgicale de la Faculte de Médecine*, et V. Veau, Ancien Prosecteur, Chirurgien des Hôpitaux de Paris Prix, broche, Frs.10, *cartonné*, Frs.11.50

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A Dictionary of Medical Diagnosis *A Treatise on the Signs and* Symptoms observed in Diseased Conditions For the Use of Medical Practitioners and Students. *By Henry Lawrence* McKisack M.D., M R.C P Lond, *Physician to the Royal* Victoria Hospital, Belfast Price 10s 6d. net.

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Merck, E., Darmstadt.

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Rebman, Limited, 129, Shaftesbury avenue, London, W C.

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company. If owing to negligence the persons employed by the company to prescribe or attend to patients or to perform dental or other operations were negligent and rendered the company liable to damages there is no substantial person to sue; and it surely was never the intention of the Legislature that the privilege of carrying on business with limited liability should be enjoyed by persons who thus sheltered themselves from the liability which attaches to the individual practitioner. Then, again, practice by joint stock companies encouraged greatly the objectionable practice known as "covering." A qualified medical practitioner might be included among the shareholders or employed as manager by the company; but as these companies usually advertised extensively and carry on business at many different places they almost always employed a number of unqualified persons who sheltered themselves under the name of the qualified employee, and are "covered" (as it was termed) by him. The offence of "covering" was one difficult to prove even in the case of individuals, and it was much more difficult in the case of companies. It was submitted that joint stock companies should be prohibited from carrying on medical or dental practice, simply on the ground that it was an abuse of the Acts to use them for this purpose. The machinery of the Joint Stock Companies Acts, Mr. TOMES further submitted, might as reasonably be applied to the performance of the duties of a barrister or solicitor or a clerk in holy orders as to those of a medical man or dental surgeon. The fact, however, that medical and dental practice by companies led to serious evasions of the Medical and Dentists Acts, and exposed ignorant and poor people to serious risks was, it was submitted, a conclusive argument in favour of these Bills. It only remained to give a few concrete examples which had actually occurred in recent years, which showed conclusively that these evils were not imaginary or slight. In June, 1904, the Registrar of Joint Stock Companies furnished to the House of Commons, at the instance of Sir JOHN TUKE, a return of the companies registered under the Companies Act for the specific purpose of carrying on medical and dental practice. The witness handed in this return. He proceeded to state that while many of these companies were instances of the abuse of the Joint Stock Companies Acts as previously described, the return included some *bonâ fide* companies incorporated for a legitimate purpose, while it did not include many of the most pernicious companies because there was nothing in their titles and often nothing in the description of the business they were avowedly formed to carry on to indicate their real character. In February, 1905, the Registrar of the General Medical Council forwarded to the Privy Council Office, at the request of the Lord President, particulars of various medical and dental companies registered under the Joint Stock Companies Acts which offered professional advice to the public, but which were not included in the Parliamentary return. The operations of not a few of these companies had been before the courts, or had been the subject of inquiries before coroners, or had been brought before the General Medical Council in their judicial capacity. In conclusion, he stated that in June, 1902, a firm of company registration agents issued a circular very extensively pointing out the advantages to be secured by persons not licensed under the Dental Acts by carrying on their business in the form of limited companies, by which "the prohibitive conditions of the Dental Acts may be entirely avoided."

Lord LUDLOW: At present there is no liability on unqualified persons at all?

Mr. TOMES: The unqualified person cannot recover fees.

Lord LUDLOW: There are no liabilities on the unqualified person who sets up practice.

Mr. TOMES: Unfortunately not. There is, of course, the prohibition to use a medical title.

Lord LUDLOW: Under the Bill dealing with dental companies qualified persons would have the right to form a dental company.

Mr. TOMES: I do not think that they would do it

Lord LUDLOW: At any rate, they would have the right to do it.

In answer to Lord KNUTSFORD, Mr. TOMES admitted that the main object of the General Medical Council in promoting these Bills was to place companies in the same position as private individuals who were unqualified.

Lord KNUTSFORD: Would the Council be satisfied if a short clause were enacted saying that the word "person" in the Act of 1858 would include companies?

Mr. TOMES: It would prefer provisions like those in the Bill which has been very carefully considered. These companies have been formed for an illegitimate purpose.

Lord KNUTSFORD: If you extend your powers against companies, why have you not asked further powers against unqualified persons to prevent them acting?

Mr. TOMES: Owing to the difficulty of getting legislation through. In every British colony I may say that unqualified practice is prohibited.

Dr. DONALD MACALISTER, Principal of the University of Glasgow and President of the General Medical Council, was the next witness. He said that he concurred in all particulars in the statement of the Council's views which had just been submitted to the committee by Mr. Tomes. He ought to say at the outset that this matter of unqualified practice by means of companies had been engaging the serious attention of the General Medical Council for ten years. The abuses which were occurring by this company practice were brought to the notice of the Council by the occurrence of particular cases which it attempted to check by the machinery of the Medical Acts, but it was unable to do so owing to the decision of the House of Lords referred to in the statement submitted by Mr. Tomes. A company was not a "person" and could not be restrained in the same way as an individual unqualified person. He felt strongly that the Companies Acts were being grossly abused in affording protection to unqualified persons. An unqualified individual might practise. There was nothing to prevent him. However, there were certain things that he could not do. He could not call himself a surgeon, a dentist, or a physician. He could not sign medical certificates, nor could he hold a public appointment. He was not exempted from various civic liabilities as surgeons and physicians were. The company, however, gave certain protection to unqualified men. It was limited in its liability to the amount of its shares, supposing malpractices were found against it and damages were awarded. The damages could not exceed the amount of the shares. He had found also that the sanction granted by the present state of the law to unqualified persons through the companies had a serious effect as regarded their dealings with the public. The Companies Acts were not intended for any other purpose than to afford financial encouragement for legitimate industry, and he could not think they were intended to give their quasi-legal status to a body of persons who could not otherwise exercise the functions of the medical profession. That was the view which Lord Halsbury took when he included clauses on this subject in his Bill of 1900. That Bill set forth that it should be unlawful for a company to carry on the profession or business of a surgeon, physician, dentist, or midwife. These clauses were struck out in the House of Commons on the ground that they were not germane to the other purposes of a Companies Bill. No objection was taken to them on principle.

The CHAIRMAN: I think that successive Governments, through the Presidents of the Council of the day, have never offered any opposition to your endeavours to get measures of this kind passed?

Dr. MACALISTER: I should be able, if your lordships desire it, to lay before you certain communications from the law officers of the Crown urging the General Medical Council to bring this matter forward.

The CHAIRMAN: I think we should like a return of that correspondence. Now, Dr. MacAlister, have you any concrete cases to put before the committee?

Dr. MACALISTER: The number of concrete cases with regard to medical practice is smaller than is the case with dental. There had been on several occasions threats on the part of persons who had been struck off the Medical Register for disgraceful and infamous conduct in a professional respect to go into practice again as a company and so defy the Council.

The CHAIRMAN: You want to prevent the materialisation of these threats?

Dr. MACALISTER said that they were rarely or never carried out. The General Medical Council exercises the power of putting a man back on the Register. He pointed out in these cases that any such action as that threatened would be a final bar to the restoration of the offending practitioner. That had been successful and they had heard no more of the threats. He thought that in one or two cases the practitioner had restored himself to good repute. The General Medical Council had used its powers more for preventive purposes than for punitive. As regarded unqualified persons who had taken medical titles there was the case of I. Waters and Sons, Limited, which was registered in 1897 in Dublin to carry on (*inter alia*) the business of physicians and surgeons. The subscribers were six members of the Waters family (three of them ladies) and a solicitor. There was no qualified practitioner among the signatories. The World's Dispensary Medical Association was another similar case. Of the seven subscribers six had the letters M.D. after their names and the other was described as superintendent. All had addresses in the United States except one, who is described as living in London. None of these names were on the Medical Register and none were legally qualified to practise pharmacy. This company was wound up in 1900. There was also the case of the "Dr. Bland" Company, Limited. This company was registered in April, 1899, in Dublin, the object being to carry on or practise the profession or business of medical doctors, physicians, surgeons, apothecaries, pharmaceutical chemists, dentists, midwives, and dry-goods and patent medicine vendors. There was no such person as Dr. Bland registered as resident in Ireland.

The CHAIRMAN: Is it not the case that the poorer classes are liable to be deceived in medical matters by companies?

Dr. MACALISTER: The poorer classes are deceived. The information which has come to the General Medical Council proves it. Circulars had been issued broadcast advertising these companies. He would like to direct the attention of the committee to the case of the General Council of Safe Medicine, Limited. This company was limited by guarantee, each member being liable for not more than £5. The company had therefore no capital. Its object was to grant degrees, scholarships, &c., in the magnetic and botanic system of Safe Medicine, the highest diploma conferring the distinction of Doctor of Botanic Medicine—distinguished by the letters M.D. (b.c.). The subscribers were a clergyman, a merchant, and five persons describing themselves as medical herbalists. On August 8th, 1894, proceedings were taken against the company and 14 managers by the Attorney-General at the relation of the General Medical Council and the company and managers submitted to an injunction restraining them from issuing or conferring any degree or diploma of M.D. (b.c.) or other like degree or diploma purporting to qualify or authorise any person to treat disease. The General Medical Council objected to the machinery of the Board of Trade being called into play to give a quasi-legal sanction to companies which were bogus companies and frauds.

Lord LUDLOW: A company might be formed of qualified persons to carry on business as medical men. Would you object to that?

Dr. MACALISTER: I would only say that the point has not been brought before me. It seems to be against the public interest that the law should step in to limit their liability. There should be a personal responsibility to the public maintained.

The CHAIRMAN: You hold the personal responsibility of the medical man would be weakened if he were in a company?

Dr. MACALISTER: I do. He further admitted, in answer to Lord KNUTSFORD, that the Bill with regard to medical companies incidentally prevented the qualified men from forming a company. He thought, however, that it was good that seven qualified men should not form a company because that would limit their pecuniary liability.

Lord KNUTSFORD: It appears to me that this Bill would prevent two men both qualified carrying on business in company.

Dr. MACALISTER: It would prevent them carrying it on as a limited liability company but not from carrying it on in partnership.

Lord FALKLAND: Do you know of a case of qualified medical men or dentists forming themselves into a company?

Dr. MACALISTER: I have never heard of one. None has come to our notice. He went on to say that he wished to emphasise the danger which had arisen from the abuse of the machinery of the Companies Acts. If he would quote a circular which had been issued by a firm of company registration agents the committee would see what he meant. It ran as follows:—

"*Private and Confidential.*

"DEAR SIR,—You may possibly be aware that there are rumours of further stringent legislation in connexion with the carrying on of businesses allied to dentistry ('artificial teeth manufacturing,' &c.) by persons not licensed under the *Dental Acts* and we take the opportunity of pointing out to you that numerous and important advantages may be secured by carrying on such businesses in the *form*

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WEST LONDON HOSPITAL, Hammersmith-road, W.—Officer in Charge of X Ray Department.

Births, Marriages, and Deaths.

BIRTHS.

CALE.—On May 30th, at Guildhall-street, Bury St. Edmunds, the wife of W. J. Cale, M.A., M.B., Ch.B., of a son.

GADSDEN.—On May 27th, at Newquay, Cornwall, the wife of A. H. Gadsden, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGE.

WYNN—ASHFORD.—On June 4th, at the Church of the Redeemer, Edgbaston, William Henry Wynn, M.D., M.R.C.P., of Birmingham, to Florence, younger daughter of George Bright Ashford, Harborne-road, Edgbaston.

DEATHS.

BIDEN.—On May 28th, at Wallington, Surrey, George Henry Biden, L.R.C.P. Lond., in his 42nd year.

MASTERS.—On May 30th, at Mount-avenue, Ealing, Maxwell Tylden Masters, M.D., F.R.S.

MOIR.—At Calcutta, on June 5th, Major David Macbeth Moir, M.A., M.D., I.M.S., Professor of Anatomy, Medical College, Calcutta, eldest son of the late Dr. Moir, St. Andrews.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AN UNUSUAL DRUG HABIT.

A VERY strong drug habit in a youth aged 20 years brought its victim before the Leyton magistrates on May 27th charged with obtaining methylated chloroform from medical men under false pretences. He had displayed considerable ingenuity in obtaining the drug, with which the druggists in the district had been forbidden by the boy's father to supply him. He first went to Mr. A. W. Aldrich of Leyton and stated that he was a medical student and Mr. E. R. Dawson's nephew, that the latter had exhausted his stock of chloroform and needed two ounces at once for an operation, and Mr. Aldrich accordingly let him have that amount. He then proceeded to visit Dr. J. O. Goldie, and stating that he was dispenser to a neighbouring practitioner he preferred a similar request and obtained another ounce of chloroform. An hour later he posed as Dr. Goldie's dispenser and called on Mr. W. G. Noble for a loan of the drug on his "employer's" behalf. Mr. Noble happened to know that Dr. Goldie did not keep a dispenser and sent for that gentleman to confront the youthful impostor who subsequently pleaded guilty, saying that he had taken chloroform for many years and was not in his right mind on the day in question on account of the amount which he had taken; he took it as a *habit* and not to relieve pain. The boy's father said that his son had taken the drug since he was 14 years old and had obtained it in a similar way before and that he had been examined by "doctors and specialists." The chairman remarked that the case required special treatment and remanded the young man to be examined medically.

A NEGLECTED TEXT.

To the Editors of THE LANCET.

SIRS,—Having read "M.D.'s" letter (THE LANCET, May 11th) with regard to the above and also the answer (if it may be called an answer) of "Soberness" (THE LANCET, May 25th), may I be permitted to take up some of your valuable space with another Biblical quotation which appears to me to be particularly applicable. I am more especially urged to draw the attention of your readers to it as I have known cases where the relatives of patients (members of a particular friendly society) have refused to administer alcohol, presumably on religious grounds, although both a colleague and myself considered it necessary. I refer to Proverbs xxxi. 6 and 7: "Give strong drink unto him that is ready to perish, and wine unto those that be of heavy hearts. Let him drink and forget his poverty and remember his misery no more." I think that any reasonable person must admit that the text not only sanctions but also advocates the use of alcoholic beverages as medical remedies.

I am, Sirs, yours faithfully,

Radstock, Bath, May 28th, 1907. JOHN PRATT.

To the Editors of THE LANCET.

SIRS,—Your correspondent "M.D." would never have wondered at all why the sentence Judges ix. 12, 13 had been so neglected unless he considered that "this striking sentence" was a striking support of the drinking of wine and intoxicating liquor in moderation. As this inference from his words is the real reason why he wrote, surely it is not impolite to reverse it by pointing out to him the facts which have been omitted by him in arriving at it. If "Cedar" had read my letter carefully he would have seen that I was not pointing out the historical meaning of Jotham, for I expressly mentioned that Jotham meant in Hebrew "Yah is perfect" (see Dr. Young's Concordance). What I desired to emphasise was this, that the account of Jotham and his parable and doings could be regarded as a parable uttered by the voice of personified *dirt* which dwelt at the well whose contents were *beer* and *be-err*, and that from this point of view it failed to exhibit that moral and spiritual perfection and thoroughness which we expect in a true revelation concerning the character of God such as *this*, to wit, that wine cheereth God, and that in consequence it condemned rather than sanctioned the use of wine and intoxicating liquor in moderation. I may point out that this position has not been undermined by "Cedar." This account of Jotham, in fact, is a perfect example of a wolf masquerading in sheep's clothing or of uncleanliness putting on a fair historical appearance. It is also an example of the historical letter which killeth and of the spirit which giveth life, which is the spirit of interpretation and

Yours sincerely,

May 31st, 1907. SOBERNESS.

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Sutton, Robert, 43, The Exchange, Southwark-street, London, S.E.

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The Girls' School Year Book (Public Schools). With the Index of Schoolmistresses. Second year of publication. 1907. Issued under the direction of the Editors of "The Public Schools Year Book." Price 2*s*. 6*d*. net.

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Turney, F. S., 22, *Paternoster-row, London, E.C.*

Medical Priestcraft, a National Peril. By John Shaw, M.D. Lond., Member of the Royal College of Surgeons, England; lately Member of the Royal College of Physicians, London, and Physician for Diseases of Women, North-West London Hospital; Fellow (late Vice-President) of the British Gynæcological Society; Fellow of the British Electro-Therapeutic Society. Price 5*s*. net.

Cancer: a Working Theory for its Prevention and Cure. By John Shaw, M.D. Lond. Price 1*s*. net.

Year-Book Publishers, Chicago. (G. Gillies and Co., 28, Gibson-street, *Hillhead, Glasgow.)*

The Practical Medicine Series. Under the General Editorial Charge of Gustavus *P.* Head, *M.D.* Volume I.: General Medicine. Edited by Frank Billings, M.S., M.D., Head of Medical Department and Dean of the Faculty of *Rush Medical College,* Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Series 1907. *Price 5s.* (Price of the complete series of 10 volumes per annum, £2 2*s*. net).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

Bennett, H. G., M.B., B.S. Lond., has been appointed Resident House Physician at St. Thomas's Hospital.

Bristow, W. R., M.R C.S., L.R.C.P. Lond., has been appointed to the Throat Department at St. Thomas's Hospital.

Burgess, A. S., M.R.C.S., L.R.C.P. Lond., has been appointed Junior Ophthalmic House Surgeon at St. Thomas's *Hospital.*

Butler, G. G., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

Carleton, H. H., M.B., B.Ch. Oxon., has been appointed to the Children's Surgical Department at St. Thomas's Hospital.

Churchill, S., M.B., B.C. Cantab., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

Coutie, W. H., M.B., Ch.M. Melb., has been appointed Medical Officer to the Callan Park Hospital, Balmain, *New* South Wales.

Dawes, H. E. T., M.R.C.S., L.R.C.P. *Lond., has been appointed to the* Ear Department at St Thomas's Hospital.

Dunkley, E. V., M.B., B.S. Lond., has been appointed Resident House Physician at St. Thomas's Hospital.

Firth, A. C. D., M.R.C.S., *L.R.C.P. Lond., has been appointed Senior* Obstetric House Physician at St. Thomas's Hospital.

Gamlen, R. L., M.R.C.S., L.R.C.P. Lond., *has been appointed* Resident House Surgeon at St. Thomas's Hospital.

Hayward, W. T., M R.C.S., L.K.Q.C.P. Irel., has been appointed a Member of the Board of Management of the Adelaide Hospital, Australia.

Hewett, F. S., M.B., B.C. Cantab., has been appointed Junior Obstetric House Physician at St. *Thomas's Hospital.*

Hill, A. W., M.D Brux., has been appointed a Member of the Board of Management of the Adelaide Hospital, Australia.

Hodgson, George James, L.R.C.S., L.K.Q.C.P. Irel., has been appointed a Member of the Medical Board of Victoria, Australia.

Howitt, A. B., M.B., B.C. Cantab., has been appointed Senior Casualty Officer to St. *Thomas's Hospital.*

Huggins, G. M., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

Iles, A. J. H., M.R.C.S., *L.R.C.P. Lond., has been* appointed to the Electrical Department and X Ray Department at St. Thomas's Hospital.

MacDonald, S. G., M.B., B.C. Cantab., has been appointed Resident House *Surgeon* at *St. Thomas's Hospital.*

Melville, Stanley, M D. Brux., M.R.C.S., L.R.C.P. Lond., has been appointed *Clinical Assistant to the Chelsea Hospital* for Women.

Mort, George Cecil, M.B., Ch.B. Vict., has been appointed Resident *Medical Officer at the Handel Cossham Memorial* Hospital, Kingswood, near Bristol.

Murphy, Thomas, *M.D.*, M.S. *Melb.*, has been appointed Surgeon to Out-patients at St. Vincent's Hospital and Honorary Surgeon to *In-patients in the Gynæcological Department,* Victoria, Australia.

Neild, F. M., M.B., B.S. Lond., has been appointed House Surgeon to *Out-patients at St. Thomas's Hospital.*

Nightingale, H. J., M.B., B.S. Lond., has been appointed House *Surgeon to Out-patients* at St. Thomas's Hospital.

Page, C. M., M.B., B.S. Lond., has been appointed Resident House Surgeon at St. Thomas's *Hospital.*

Philpot, H. A., M.R C.S., L.R.C.P. Lond., has been appointed *Resident House* Physician at St. Thomas's Hospital.

Pinchin, A. J. S., M.B., B.S. Lond., has been appointed to the Ear *Department* and to the *Skin Department* at St. Thomas's Hospital.

Purdy, J. S., M.D., C.M. Aberd., D.P.H. Camb., has been appointed *District* Health Officer, Auckland, *New* Zealand.

Rogers, R. S., M.D., Ch.M. Edin. & Adel., has been appointed a Member *of the Board of* Management *of* the Adelaide Hospital, Australia.

Sankey, W. *O.*, M B., *B.S. Lond., has been appointed Junior* Casualty Officer to St. Thomas's Hospital.

Sparrow, E. A., M.R.C.S., *L.R.C.P., has been* appointed to the Skin Department at St. Thomas's Hospital.

Sutton, W. *H. R., B.C. Cantab.,* M.R.C.S., *L.R C.P. Lond.*, has been appointed House Physician to Out-patients at St. Thomas's *Hospital.*

Todd, R. E., M.B., B.S. Lond., has been appointed to the Children's *Surgical Department* and *to the Throat Department at St.* Thomas's Hospital.

Unwin, H. R., M.B., *B.C.* Cantab., has been appointed House Surgeon *to Out-patients at St. Thomas's Hospital.*

Walker, S. L., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

Ward, W. C. A., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Ophthalmic House Surgeon at *St. Thomas's Hospital.*

Whitehead, C. E., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Physician at *St. Thomas's Hospital.*

Whitehouse, H. B, M.B, B.S. Lond., has been appointed Resident House Surgeon at *St. Thomas's Hospital.*

Wright, Garnett, M.B., Ch.B. Edin., F.R.C.S. Eng., has been appointed Honorary Surgeon *to the* Ancoats Hospital, Manchester.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Ayr District Asylum.—Junior Assistant Physician. Salary £120, with board, apartments, and laundry.

Bexley, Kent, London County Asylum.—Junior Assistant Medical Officer, unmarried. Salary £150 a year, with board, *apartments,* and washing.

Bradford Children's Hospital.—House Surgeon. Salary £100.

Brighton, Hove, and Preston Dispensary.—Honorary Medical Officer.

Brighton, Sussex County Hospital.—Second House Surgeon, unmarried. Salary £60 per annum, with board and *residence.*

Bristol General Hospital.—Physician. Also Assistant Physician.

Brixton *Dispensary.—Resident Medical Officer, unmarried.* Salary £150, with apartments, attendance, coal, and gas.

Canterbury City Asylum.—*Assistant Medical Officer.* Salary £140 per annum, with apartments and laundry.

Cheltenham General Hospital.—Surgeon-in-Charge *of* the Branch Dispensary, unmarried. Salary £90 per annum, with board and *lodging.*

Coventry and Warwickshire Hospital.—Junior House Surgeon for six *months*, renewable. Salary *£60* per annum, *with* rooms, board, washing, and attendance.

Dumfries and Galloway Royal Infirmary.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Surgeon. Also Assistant Surgeon.

Egypt.—Sub-Inspector of Ophthalmic Hospitals, unmarried. Salary £500 a year.

General Lying-in Hospital, York-road, Lambeth, S.E.—Resident House Physician for four months. Salary at rate of £50 per annum, with board and residence.

Glamorgan County Asylum, Bridgend.—Junior Assistant Medical Officer, unmarried Salary £150 a year, with board, apartments, attendance, and washing. Also Locum Tenens for about *four* and a half months. Terms 3 guineas a week, with board, lodging, washing, and travelling expenses.

Guildford, Royal Surrey County Hospital.—House Surgeon. Salary £100, with board, residence, and *laundry. Also* Assistant House Surgeon. Salary £50, with board, residence, and laundry.

Halifax Union Poor-law Hospital, *Salterhebble.—Resident Medical* Officer. Salary £125 per annum, with apartments, *rations,* and washing.

Herefordshire General Hospital.—Honorary Surgeon.

Hospital for Sick Children, *Great Ormond-street, London,* W.C.—Anæsthetist.

Hull, *Royal Infirmary.—Casualty* House Surgeon. Salary £50, with board and lodging.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: *Dr. F. Taylor: Medicine.* 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye. 2.15 P.M.: Special Lecture:—Dr. F. Taylor: Diagnosis of Typhoid Fever.

THURSDAY (13th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Dr. Davis.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. J. E. Squire: Empyema, its Recognition and Treatment.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). *Cliniques:*—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

Charing Cross Hospital.—4 P.M.: *Dr. Fenton: Demonstration* (Medical). (Post-Graduate Course.)

University of Birmingham, Faculty of Medicine (Medical Lecture Theatre).—4 P.M.: Post-Graduate Lecture:—Dr. J. Robertson: The Value of Preventive Methods against *Infectious Diseases.*

Hospital for Sick Children (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Dr. Voelcker: Enlarged Abdomens.

Royal Institute of Public Health (37, Russell-square, W.C.).—5 P.M.: Special Lecture:—Dr. E. W. Goodall: The Treatment of Infectious Diseases regarded from the Point of View of Hospital Administration.

Medical Officers of Schools' Association (11, Chandos-street, Cavendish-square, W.).—3.45 P.M.: Annual General Meeting. Paper:—Mr. C. E. Wallis: The Care of the Teeth in Public Elementary Schools.

FRIDAY (14th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: *Operations. Dr. Abraham: Diseases of the Skin.* 5 P.M.: Clinical Lecture:—Mr. Bidwell.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. C. A. Parker: Clinique. (Throat.)

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie). 4.30 P.M.: *Special* Demonstration of Eye Cases.

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: *Mr. McGavin: Surgery. Out-patient Demonstrations:*—10 A.M.: Surgical and Medical. 12 noon: Skin.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Mr. M. Gunn: Optic Neuritis.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Dr. D. Grant: Methods of Examination.

London Hospital Medical College (University of London) Clinical Theatre).—1 P.M. Dr. F. W. Hewitt: Certain Interesting (Clinical Points in the Administration of General Anæsthetics.

SATURDAY (15th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations.

London School of Clinical Medicine (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 6th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 31	29·77	S.W.	0·12	97	65	53	56	58	Raining
June 1	29·42	S.W.	0·11	113	68	54	55	56	Overcast
" 2	29·59	S.W.	0·29	84	58	56	55	56	Cloudy
" 3	29·74	W.	0·15	73	56	47	45	51	Cloudy
" 4	29·87	S.W.	...	95	63	51	51	55	Cloudy
" 5	29·74	S.W.	...	99	66	55	56	58	Raining
" 6	29·66	W.	0·44	115	56	52	52	55	Cloudy

During the week marked copies of the following newspapers have been received:—*Daily Mail (Hull), Morning Post, Newcastle Chronicle, Notts Guardian, Birmingham Gazette, Derby Express, Manchester Despatch, Bradford Daily Argus, Midland Evening News, Pharmaceutical Journal, Bath Chronicle, Grimsby Gazette, Sheffield Telegraph, Evening News, Edinburgh Evening News, Cornish Times, Veterinary Record, Schoolmaster, Bristol Echo, Morning Leader, Daily Chronicle, Worcester Times, Western Mercury, Scientific American, &c.*

when using this lamp is half the time of that required by the "iron" light and from a third to a fifth of that taken by the Finsen light. It is capable also of dealing with larger areas.

CRYSTALLINE CALOMEL.

To the Editors of THE LANCET.

SIRS,—I am taking the liberty of sending you a *specimen of* a crystalline modification of calomel first isolated by Meyer in 1905 which I have been using *for some time now in preference to* the ordinary varieties for diseases of the eye. It is prepared by adding a solution of lithium sulphite *to one of* mercuric chloride. The heavy white precipitate of ordinary calomel is filtered off and the clear solution heated to from 70° to 80° C., when the salt separates in lustrous scales. It has a specific gravity of from 4·5 to 5·0, as against from 6·5 to 7·0 of the ordinary salt, and it changes into the latter on sublimation. It does not seem to be an allotropic modification, as it shows no difference of potential when measured in a galvanic cell against ordinary mercurous chloride. The salt was prepared *for me by Mr.* Martindale, of 10, New Cavendish-street, London, W., whom I have to thank for the trouble taken in its preparation and *from whom it may* be obtained by those who are interested in the new salt.

I am, Sirs, yours faithfully,

May 28th, 1907. J. BURDON-COOPER, M.B., B.Sc., F.R.C.S.

◆

Australia.—The Second International Congress on School Hygiene will be held in London from August 5th to 10th. *The organising committee sits at the Royal Sanitary Institute, Margaret-street, London, W. In the meantime our correspondent may find the following* references useful to him: THE LANCET, Jan. 20th, 1906, vol. i., p. 174; March 10th, p. 688; May 12th, p. 1331; vol. ii., August 11th, p. 413; Sept. 8th, p. 661; and Oct. 13th, p. 1030, all dealing with the feeding of school children; Oct. 6th, p. 927; Oct. 20th, p. 1099; Dec. 29th, p. 1808, dealing with the inspection of school children; Oct. 13th, p. 989, on the type of school books; and a leading article on the International Congress of School Hygiene, Dec. 2nd, p. 1733. A pamphlet has recently been printed containing our Special Commissioner's reports on the feeding of school children abroad and can be obtained from the Manager of THE LANCET, price 3*d.* (postage 1*d.*).

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (15th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (11th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Mr. P. L. Mummery: The Causes of Colitis, with Special Reference to its Surgical Treatment, with an Account of Thirty-six Cases.—Dr. D. Forsyth: Experiments on Prolonged Protein Feeding, with Special Reference to the Thyroid *Glands and the Production of Osseous Tissue.*—Dr. N. Bardswell and Dr. J. E. Chapman: The Changes occurring in the Number of Red Corpuscles and their *Hæmoglobin Contents* in Pulmonary Tuberculosis. (Epidiascope demonstration.)

WEDNESDAY (12th).—*DERMATOLOGICAL SOCIETY OF LONDON* (11, Chandos-street, Cavendish-square, W.).—4.30 P.M.: Special General Meeting for the purpose of Dissolving the Society and Merging it into the Royal Society of Medicine.

SOUTH-WEST LONDON MEDICAL SOCIETY (Head-quarters of the 4th Volunteer Battalion, East Surrey Regiment (opposite Clapham Junction Station)—9 P.M.: Annual Bolingbroke Lecture:—Dr. G. H. Savage: *The Factors of Insanity.*

THURSDAY (13th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM *(11, Chandos-street, Cavendish-square, W.).—8 P.M.:* Card Specimens. 8.30 P.M.: Papers:—Mr. Nettleship: A History of Night Blindness in *Nine Consecutive Generations.—Mr. L. Werner:* A Peculiar Case of Subretinal Cysticercus.—Mr. A. L. Whitehead: (1) A Metastatic Tumour of the Choroid; (2) Multiple Cysts of Retina.

FRIDAY (14th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—6 P.M.: Bowman Lecture: Prof. Sattler: The Pathology and Treatment of Myopia.

SATURDAY (15th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (County Hospital, Bedford).—3 P.M.: Discussion on Acute Rheumatism (opened by Dr. C. O. Hawthorne). *Papers by* Dr. E. Cautley and Mr. Tubby.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (10th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—12 noon: Pathological Demonstration. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Baldwin: *Practical Surgery.*

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. C. Fox: Clinique. (Skin.) 5.15 P.M. Lecture:—Dr. T. W. Eden: The Early Treatment of Puerperal Infection.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: *Medical Out-patient* (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: *Ear* and Throat. 3.15 P.M.: Special Lecture:—Mr. W. Turner: Empyema.

ROYAL INSTITUTE OF PUBLIC HEALTH (20, Hanover-square, W.).—6 P.M.: *Harben Lecture: Prof. Dr. P.* Ehrlich: Experimental Researches on Specific Therapeutics.

TUESDAY (11th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: *Operations.* Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. Low: Ankylostomiasis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, *W.C.).—4 P.M.: Dr. B Abrahams:* Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. D. Grant: The Treatment, especially Conservative, of Chronic Suppuration of the Middle Ear.

NORTH-EAST LONDON POST-GRADUATE COLLEGE *(Prince of Wales's* General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: *Gynæcological Out-patient* (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (*Mr. Carson*). 4.30 P.M.: Special Demonstration of Cases (Mr. Carson).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient *Demonstrations*:—10 A.M.: Surgical and Medical. 12 noon: Skin.

ROYAL INSTITUTE OF PUBLIC HEALTH (20, Hanover-square, W.).—6 P.M.: Harben Lecture: Prof. Dr. P. Ehrlich: Experimental Researches on Specific Therapeutics.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. D. Grant: Methods of Examination.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Ormerod: Friedreich's Disease.

WEDNESDAY (12th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X *Rays.* Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Beddard: *Practical Medicine.*

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. C. Ryall: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. L. Cheatle: *Paget's Disease of the Nipple and its* Treatment (with lantern slides).

The Ingleby Lectures

ON

PELVIC INFLAMMATIONS IN THE FEMALE.

Delivered at the University, Birmingham, on May 9th and 16th, 1907,

BY THOMAS WILSON, M.D. LOND., M.CH. BIRM., F.R.C.S. ENG.,
OBSTETRIC OFFICER TO THE GENERAL HOSPITAL, BIRMINGHAM.

LECTURE I.

Delivered on May 9th.

MR. DEAN AND GENTLEMEN,—The Ingleby Lectures were established in connexion with Queen's College in the year 1876 and were intended to promote "the advancement of obstetric medicine and surgery, including diseases of women and children, being a branch of medical science in which Dr. John Tomlinson Ingleby acquired considerable reputation." Dr. Ingleby practised in Birmingham from the year 1816 until his death at the end of January, 1845. The writer of an eloquent and appreciative obituary notice tells us that death resulted from pneumonia, for which it is interesting as showing the difference between the treatment of inflammations then and now to note that blood was taken to the amount of a pint from the arm, leeches were applied to the head, followed by a blister and a cathartic of colocynth, and small doses of calomel at short intervals. Two days after the acute onset of the pneumonia the patient was seized with intense headache, for which effusions of cold water were used, followed by leeches to the side of the head, and other remedies; delirium followed, and the patient died on the fifth day from the onset of the pneumonia. Post-mortem examination disclosed pleurisy on the right side and meningitis. The writer in his summary states that "from beginning to end the case was clearly one of metastatic gout, altering its features with the several organs it visited, but uniformly distinguishing itself by the characteristics of specific inflammation." In the light of present-day knowledge it is probable that the cause of death was a terminal infection by the pneumococcus.

Dr. Ingleby completed his fiftieth year shortly before his death, "a victim to the undue devotion to study and to the duties of his immense practice." He was the first specialist in obstetric medicine in Birmingham, and lectured on midwifery when the medical school was first formed in this city in 1828. He was one of the original members of the still flourishing Medical Benevolent Society, and it is good evidence of the esteem in which he was held by his professional brethren that, as I am informed by Mr. W. F. Haslam, he was appointed president of the society in 1836. As an author on obstetric subjects Dr. Ingleby was without a provincial rival, and his writings, as Dr. C. J. Cullingworth has remarked, were evidently the outcome of close personal observation and of a sound judgment, and appear to have fairly reflected the best opinions and the best practice of the time. Among several papers by Dr. Ingleby, published in the *Edinburgh Medical and Surgical Journal*, is one in relation to the subject of these lectures in Vol. XLIX. for 1838, in which he relates several epidemics of puerperal fever which occurred in Birmingham in the years 1826, 1833, and later. In this paper the author insists upon the great contagiousness of the affection, and recognises the fact that erysipelas and puerperal fever may both be due to the same morbid poison. He refers to the then recent researches of Dr. Robert Lee on the morbid anatomy of puerperal fever.

At that time scientific knowledge of pelvic inflammations was rudimentary and it was not until the second half of the century that a deeper insight began to be obtained into the nature of inflammation in general and those of the uterine appendages in particular. After Dr. Lee's researches the next important work appears to have been that of Bernutz and Goupil, who, in 1857, first made known to the profession that gonorrhœa frequently gives rise to severe inflammation of the uterine appendages and pelvic peritoneum. In 1872 Noeggerath, in an epoch-making paper, emphasised with some pardonable exaggeration the wide-spread and disastrous effects produced by gonorrhœa on the female pelvic organs. In 1879 the gonococcus was discovered by Neisser. About this time the development of modern surgery began to pave the way for a fuller knowledge of these affections and among the earliest workers in this field the name of our late fellow-townsman, Lawson Tait, stands conspicuous. In the early "eighties" Tait on many occasions brought before the Pathological and Obstetrical Societies papers on, and specimens of, pyosalpinx removed by operation from patients in whom they had been the cause of grave persistent illnesses.

Like all other leaders of men Lawson Tait not merely drew to himself a large following of disciples and believers, but excited among the more conservative members of the profession a determined opposition. He was not long in gaining support from the pathological side. In 1884 J. K. Fowler read a paper before the Medical Society of London in which he related 15 cases of diseases of the uterine appendages occurring in the post-mortem room at the Middlesex Hospital in the preceding three years. In at least seven of the cases death had resulted from the condition, in several of them from ruptured pyosalpinx; while testimony to the severe and long-continued exhausting illness which may result from pyosalpinx is found in the fact that two of the patients died with amyloid disease of the viscera. Three years later Lewers at the Obstetrical Society related his observations on 100 post-mortem examinations of female patients at the London Hospital; he had found pyosalpinx in five of the cases, hæmatosalpinx in four, and hydrosalpinx alone or combined with pyo- or hæmato-salpinx in eight. A few years later, in 1892, Cullingworth read a paper at the same society on the value of abdominal section in certain cases of pelvic peritonitis, based on a personal experience of 50 cases; and since this time it has been universally recognised by the profession in this country that surgical treatment is not only justifiable but of the greatest value in certain inflammations of the uterine appendages.

Formerly pelvic inflammation could only be studied at the bedside and in the post-mortem room. Now abundant material is provided by the numerous operations performed for these affections and frequent opportunities are afforded for comparing the results of clinical examination with the actual conditions present in the diseased organs. In the investigation the aid of the microscope, of chemistry, and of bacteriology is invoked, and in the last few years a further great impetus has been given to the research by the development of bio-chemical methods. At the present time a case of pelvic inflammation demands not merely the use of all the time-honoured methods of clinical examination, subjective and objective, but calls for the employment by specially skilled observers of chemical and bacteriological methods of determining the characters of the blood, of the discharges, and of fluids and tissues which may be removed either during the life or after the death of the patient.

At a large general hospital such as the one to which I have the honour to be attached abundant opportunities are presented of studying pelvic inflammations in the female in all stages and degrees of severity. Among the out-patients in the special department for diseases of women are seen the slighter cases that are amenable to simpler methods of treatment. Here 1 patient in every 8 is affected by inflammation of the pelvic peritoneum or cellular tissue or of the uterine appendages. In a consecutive series of 8714 special cases of diseases of women seen by me 1092 (12·5 per cent.) applied for treatment for these affections. The diagnosis of the various conditions observed was as follows:—

Acute pelvic cellulitis	70
Subacute or chronic cellulitis	43
Acute inflammations complicating pregnancy	4
Acute pelvic peritonitis	258
Suppurative peritonitis	4
Tuberculous peritonitis	27
Chronic pelvic peritonitis	151
Salpingitis	85
Salpingo-ovaritis	217
Ovaritis	223
Adherent retroversion of the uterus	29
Total	1092

These headings represent merely working clinical diagnoses and as in the great majority of the patients recovery, partial or complete, has taken place without operation—that is to say, without the opportunity of actually inspecting the affected organs—it has not seemed necessary or even useful further to analyse the cases upon this occasion.

In the post-mortem room we are able to see the end result of the affections in the worst cases, and for this purpose I

Communications, Letters, &c., have been received from—

A.—Asylums Committee of the London County Council; Association of Medical Diplomates of Scotland, Hon. Secretary of; Messrs. Aked and Aked, Lond.; American Medical Association, Chicago.

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B.—Mr. A. M. Berrows, Hove; *Berry Wood Asylum, Northampton*, Clerk of the; Messrs. Brunner, Mond, and Co., Northwich; *Mrs. Barton*, Wanstead; Berrow's Worcester Journal Co., Manager of; Bristol Eye Hospital, Secretary of; Dr. J. L. Bogle, Courmayeur, Italy.

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The Ingleby Lectures

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Delivered at the University, Birmingham, on May 9th and 16th, 1907,

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Dr. Ingleby completed his fiftieth year shortly before his death, "a victim to the undue devotion to study and to the duties of his immense practice." He was the first specialist in obstetric medicine in Birmingham, and lectured on midwifery when the medical school was first formed in this city in 1828. He was one of the original members of the still flourishing Medical Benevolent Society, and it is good evidence of the esteem in which he was held by his professional brethren that, as I am informed by Mr. W. F. Haslam, he was appointed president of the society in 1836. As an author on obstetric subjects Dr. Ingleby was without a provincial rival, and his writings, as Dr. C. J. Cullingworth has remarked, were evidently the outcome of close personal observation and of a sound judgment, and appear to have fairly reflected the best opinions and the best practice of the time. Among several papers by Dr. Ingleby, published in the *Edinburgh Medical and Surgical Journal*, is one in relation to the subject of these lectures in Vol. XLIX. for 1838, in which he relates several epidemics of puerperal fever which occurred in Birmingham in the years 1826, 1833, and later. In this paper the author insists upon the great contagiousness of the affection, and recognises the fact that erysipelas and puerperal fever may both be due to the same morbid poison. He refers to the then recent researches of Dr. Robert Lee on the morbid anatomy of puerperal fever.

At that time scientific knowledge of pelvic inflammations was rudimentary and it was not until the second half of the century that a deeper insight began to be obtained into the nature of inflammation in general and those of the uterine appendages in particular. After Dr. Lee's researches the next important work appears to have been that of Bernutz and Goupil, who, in 1857, first made known to the profession that gonorrhœa frequently gives rise to severe inflammation of the uterine appendages and pelvic peritoneum. In 1872 Noeggerath, in an epoch-making paper, emphasised with some pardonable exaggeration the wide-spread and disastrous effects produced by gonorrhœa on the female pelvic organs. In 1879 the gonococcus was discovered by Neisser. About this time the development of modern surgery began to pave the way for a fuller knowledge of these affections and among the earliest workers in this field the name of our late fellow-townsman, Lawson Tait, stands conspicuous. In the early "eighties" Tait on many occasions brought before the Pathological and Obstetrical Societies papers on, and specimens of, pyosalpinx removed by operation from patients in whom they had been the cause of grave persistent illnesses.

Like all other leaders of men Lawson Tait not merely drew to himself a large following of disciples and believers, but excited among the more conservative members of the profession a determined opposition. He was not long in gaining support from the pathological side. In 1884 J. K. Fowler read a paper before the Medical Society of London in which he related 15 cases of diseases of the uterine appendages occurring in the post-mortem room at the Middlesex Hospital in the preceding three years. In at least seven of the cases death had resulted from the condition, in several of them from ruptured pyosalpinx; while testimony to the severe and long-continued exhausting illness which may result from pyosalpinx is found in the fact that two of the patients died with amyloid disease of the viscera. Three years later Lewers at the Obstetrical Society related his observations on 100 post-mortem examinations of female patients at the London Hospital; he had found pyosalpinx in five of the cases, hæmatosalpinx in four, and hydrosalpinx alone or combined with pyo- or hæmato-salpinx in eight. A few years later, in 1892, Cullingworth read a paper at the same society on the value of abdominal section in certain cases of pelvic peritonitis, based on a personal experience of 50 cases; and since this time it has been universally recognised by the profession in this country that surgical treatment is not only justifiable but of the greatest value in certain inflammations of the uterine appendages.

Formerly pelvic inflammation could only be studied at the bedside and in the post-mortem room. Now abundant material is provided by the numerous operations performed for these affections and frequent opportunities are afforded for comparing the results of clinical examination with the actual conditions present in the diseased organs. In the investigation the aid of the microscope, of chemistry, and of bacteriology is invoked, and in the last few years a further great impetus has been given to the research by the development of bio-chemical methods. At the present time a case of pelvic inflammation demands not merely the use of all the time-honoured methods of clinical examination, subjective and objective, but calls for the employment by specially skilled observers of chemical and bacteriological methods of determining the characters of the blood, of the discharges, and of fluids and tissues which may be removed either during the life or after the death of the patient.

At a large general hospital such as the one to which I have the honour to be attached abundant opportunities are presented of studying pelvic inflammations in the female in all stages and degrees of severity. Among the out-patients in the special department for diseases of women are seen the slighter cases that are amenable to simpler methods of treatment. Here 1 patient in every 8 is affected by inflammation of the pelvic peritoneum or cellular tissue or of the uterine appendages. In a consecutive series of 8714 special cases of diseases of women seen by me 1092 (12·5 per cent.) applied for treatment for these affections. The diagnosis of the various conditions observed was as follows:—

Acute pelvic cellulitis	70
Subacute or chronic cellulitis	43
Acute inflammations complicating pregnancy ..	4
Acute pelvic peritonitis	258
Suppurative peritonitis	4
Tuberculous peritonitis	27
Chronic pelvic peritonitis	131
Salpingitis	86
Salpingo-ovaritis	217
Ovaritis	223
Adherent retroversion of the uterus	29
Total	1092

These headings represent merely working clinical diagnoses and as in the great majority of the patients recovery, partial or complete, has taken place without operation—that is to say, without the opportunity of actually inspecting the affected organs—it has not seemed necessary or even useful further to analyse the cases upon this occasion.

In the post-mortem room we are able to see the end result of the affections in the worst cases, and for this purpose I have examined the records of 1487 consecutive necropsies on females that have been made in the General Hospital from 1891 until the middle of the year 1906. The notes vary much in value according to the attention paid to the pelvic organs by the pathologist for the time being but abundant evidence is afforded of the frequency and gravity of the affections we are considering. Secondary infections of the Fallopian tubes of merely pathological interest are frequently observed, as in cases of perforative peritonitis from various causes where the resulting exudation invades the open fimbriated extremities; in patients dying from tuberculous affections, in whom the tubes and pelvic peritoneum are frequently involved; and in women dying from cardiac diseases, in whom catarrhal salpingitis is common. Cases in which death is directly brought about by diseases arising in the generative organs are also common enough. The affections may be fatal in the acute stage from septicæmia, pyæmia, or peritonitis, or in the later stages from rupture, or perforation and peritonitis, or from intestinal obstruction. The most frequent cause of death in the earlier stages is puerperal infection and in the present series are included 22 such cases. One patient died from thrombosis of the inferior vena cava arising from a pelvic peritonitis. In four patients acute gonorrhœal peritonitis, and in one patient gonorrhœal pyæmia, caused death. The fatal issue may result after a long period has elapsed, sometimes many years after the originating infection. Thus fatal peritonitis was caused by rupture of a pyosalpinx in seven instances and of an ovarian abscess in two, while saprophytic infection of an old tuberculous pyosalpinx led to the death of another patient. In 17 cases intestinal obstruction was set up by bands having one end attached to the uterus or its appendages; in five of these there had been previous operations on the pelvic organs, in the other 12 none. In two cases it is noted that hydronephrosis had arisen from pressure on the ureters by pyosalpinx. One of these cases was of peculiar interest; it occurred in a rickety child, aged two and a half years, who died from gonococcal peritonitis; the tubes contained thin pus and the pathologist observes that "it is evidently their pressure that has caused narrowing of the ureters and hydronephrosis." The pus in the tubes contained diplococci, mostly intracellular, not taking Gram's stain. Seven patients died from infection by the pneumococcus, and in six of them it is distinctly stated that the uterus and appendages were healthy; three, however, had been recently delivered, so that it would appear that the puerperal state in some way predisposes to infection by the pneumococcus, but that the invasion does not take place by way of the pelvic organs.

In this account of post-mortem observations on pelvic inflammations in the female I have purposely omitted any reference to the examinations made upon patients dying after gynæcological operations. The cases of intestinal obstruction and of ruptured pyosalpinx referred to came in the ordinary course of emergency operations to my surgical colleagues and the information gained from necropsies on my own patients has been used in the analysis of in-patient cases.

The most acute and severe cases of pelvic inflammation that apply for help are admitted for in-patient treatment, in most instances by operation. In a certain proportion after further observation operative treatment is not considered necessary or is rejected. For the present purpose 38 such cases are not considered, because conclusions to be of service, in my opinion, should be based, not merely upon clinical observation of patients, but also upon a careful investigation at operation or post-mortem examination of the diseased organs. For the purposes of these lectures I have analysed the notes of every case of inflammation of the uterine appendages and of the pelvic peritoneum and cellular tissue that has come under my care for operation in the in-patient department of the General Hospital up to the end of 1906; in most of the cases the necessary surgical treatment has been carried out by myself, but in a certain number the operations have been performed by my colleague, Mr. J. T. Hewetson, and by the resident surgical officers. All my private operations until the same date have been included in the analysis. The total number of cases is 307, in which are included six of puerperal pyæmia and 41 of suppuration of the pelvic cellular tissue.

Pelvic cellulitic abscess.—Of the cases of extraperitoneal abscess one which had existed since the previous labour and had opened into the vagina was complicated by pregnancy; in another patient a small abscess formed between the layers of the outer part of the broad ligament after an abortion; and in a third persistent suppuration of the conne tissue surrounding the supravaginal cervix followed upc operation for removal of the appendages performed where. All the other cases were puerperal, and with exceptions were operated upon within three montl labour. In one patient who was very ill with a third a of acute lateral cellulitis five years had elapsed since th labour, with which the history clearly connected the ab The other exception occurred in a patient two and a years after the last labour; there was no leucocyt through a subperitoneal incision curdy matter in whicl a calcareous nodule was evacuated; the pus contained diplococci growing feebly on agar and staining by G method, but no tubercle bacilli could be found; two mo after the operation there was still a mass behind the ut probably caused by a pyosalpinx. The situation of abscess in these extraperitoneal cases was in the la connective tissue in 31, in the connective tissue behin uterus in eight, and between the layers of the broad liga in two, both verified by abdominal section. In five of cases an exploratory laparotomy was performed and in e instance disclosed adhesions of the appendages on the affected, varying from a few loose membranes to d brawny induration.

Intraperitoneal abscess.—Among the remaining 260 c of pelvic inflammation there were 41 cases of intraperito suppuration, of which 12 associated with pyosalpinx wil considered in that connexion. Of 12 other cases in whi posterior vaginal incision was made, in six the append were made out to be adherent and enlarged; in the other the appendages could not be definitely recognised. 17 ca treated by abdominal incision and drainage included where the uterus had been perforated in curetting for an complete abortion, and four in which the origin of the could not be made out with certainty. In a sixth patient whole pelvis was filled by a dense, hard, inflammatory m containing disseminated small collections of pus and relations to the organs could not be made out. The ot cases occurred in parous patients and had probably origina in the appendages. Of the whole number of 41 in peritoneal abscesses 18 certainly, and 11 more with g probability, had originated in affections of the uterus or adnexa. Of the remaining 12 suppuration had been cau by infected ligatures or infection at a previous opera in five and the pathological relations were obscure in seve Excluding puerperal pyæmia and cellulitic abscess, and s tracting 12 cases of pelvic abscess, some of them of doub origin, it appears that of 260 pelvic inflammations treated operation in the female 248 originated in the uterine app dages. Of these 151 were for suppurating conditions and for catarrhal or non-suppurative; the affections may classified as follows:—

Catarrhal salpingitis and ovaritis	60
Ovarian hæmatoma	11
Hydrosalpinx	26
Pyosalpinx	80
Pyosalpinx with ovarian abscess	17
Pyosalpinx with pelvic abscess	12
Ovarian abscess without pyosalpinx	14
Pelvic abscess originating in the uterine appendages	17
Tuberculous appendages	11
Total	248

ANATOMY.

The vagina and uterus, with the Fallopian tubes a ovaries, are contained, together with the bladder and part the rectum, in a potential space bounded by the peritone above and the pelvic fascia below, and continuous all rou with the subperitoneal connective-tissue space of the rest the abdominal wall. That part of this potential space wh is not occupied by the organs is filled up by the pel connective tissue, which is abundant about the supravagi cervix. From the cervix on either side radiate three co siderable collections of the connective tissue, the large forming the connective tissue at the base of the broad lig ment, otherwise called the cardinal ligament of the cerv the next most important collection, the utero-sacral lig ment, takes a curved course upwards and backwards towar the second piece of the sacrum, and the third runs forwa under the bladder towards the back of the pubes. Th ovary is covered not by peritoneum but by germinal epith lium, and may be considered as projecting through hole in the posterior layer of the broad ligament. Th vascular and lymphatic supplies of the ovary communicate freely through the hilum with those of the pelvic connective tissue. In the connective tissue run many important structures of which the chief for our present purpose are the arteries and veins and the lymphatic vessels. The ovarian artery, accompanied by the ovarian plexus of veins courses over the psoas muscle, through the ovario-pelvic ligament, along the upper part of the mesometrium to the side of the uterus, where the vessels very freely anastomose with the uterine artery and plexus of veins. The latter run inwards from the internal iliac vessels on the side of the pelvis, through the connective tissue at the base of the broad ligament, and turn upwards along the side of the uterus without entering its substance. The lymphatic vessels are also collected into two main plexuses, roughly corresponding to the veins. The ovarian lymphatics take the direction of the ovarian vessels upwards over the psoas and join some of the middle lumbar glands lying in close relation to the aorta and vena cava. The uterine plexus of lymphatics takes a similar course to that of the uterine veins and joins the lymphatic glands which are situated at the bifurcation of the common iliac and along the external iliac vessels. In their course from the uterus to the side of the pelvis the ovarian plexus and lymphatics receive communicating branches from those of the ovary and of the Fallopian tube. The ureters run from behind forwards and inwards through the cardinal ligament at the level of the isthmus and at a distance of about two-thirds of an inch laterally from the cervix. This relation is of importance, because sometimes cicatricial contraction of the pelvic connective tissue, the result of inflammation, compresses the ureter and gives rise to dilatation, hydronephrosis, and predisposition to suppuration of the kidney.

The relation of the organs to each other as seen from the peritoneal aspect is important from the practical point of view. The uterus with the broad ligaments stretch across the true pelvis from side to side, dividing the cavity into a shallow anterior fossa and a deep and complicated posterior one. The posterior fossa may be divided into three portions —one median and two lateral. The middle portion in its upper part is bounded in front by the uterus and behind by the front of the sacrum. The lower part forms Douglas's pouch and is marked off from the upper part by the utero-sacral ligaments; it extends downwards behind the upper part of the vagina and its posterior wall is formed by the rectum, which loses its peritoneal covering as it passes below the apex of the pouch. The lateral portion of the posterior pelvic fossa is placed at the side of the uterus above the utero-sacral fold and is bounded in front by the back of the broad ligament, to which the ovary is attached by the mesovarium. Over the ovary the Fallopian tube with the mesosalpinx is thrown like a cloak, the tube circling round so that its fimbriated extremity comes to lie below the lower end of the ovary a little above the level of the fold of Douglas.

The peritoneum is loosely connected to all the organs with the exception of part of the body of the uterus. With the anterior and posterior walls of the uterus as low down as the vesico-uterine pouch in front and as the insertion of the vagina behind the peritoneum is intimately connected, and immediately under it is situated the largest and closest plexus of the lymphatics of the uterine wall. This is a fact of great importance from the point of view of the spread of certain germs in puerperal infections.

PATHOLOGY.

Inflammation is the name given to the reaction of the tissues to the irritant effect of an injury, mechanical, thermal, chemical, or bacterial. In the pelvic organs inflammation is occasionally seen as the effect of mechanical or chemical irritants. Hæmorrhage into the peritoneum from tubal gestation sets up a surrounding and limiting adhesive peritonitis without the aid of micro-organisms; and a similar non-spreading simple peritonitis arises, for instance, in twisting of the pedicle of an ovarian tumour or of a pedunculated uterine fibroid. In certain cases so-called catarrhal inflammations of the tubes, as of other organs, are put down to supposititious causes which merely serve as a cloak for ignorance. Most of these cases probably depend on the action of germs, the mildness of the resulting changes being explained either by attenuation of the organisms or relative immunity on the part of the host. At any rate the so-called catarrhal cases shade imperceptibly into the purulent group, and it may be stated with confidence that severe and especially spreading inflammation depends upon bacterial causes; the tendency is constantly to trace more and more cases of all kinds of inflammation of the uterine adnexa as of other organs in the body to the action, recent or remote in time, of living germs. In recent cases living organisms can always be demonstrated by suitable methods, but after a certain time the germs tend to die; after they are dead their bodies disappear, so that the products of inflammation, even pus that has existed for a few months, are frequently sterile both in films and cultures.

For the present purpose the uterus and its appendages must be considered not as a collection of independent though continuous organs but as forming, together with the neighbouring peritoneum and pelvic connective tissue, a closely connected system, along the interior of which runs a canal leading directly from the surface of the body into the peritoneal cavity. In this canal are various narrowings, the external and internal os, the uterine orifices of the tubes, and their peritoneal openings. These afford very little resistance to the passage upwards of minute bodies and C. J. Bond has demonstrated that even inanimate particles quickly find their way from the vagina along the uterus and tubes into the peritoneal cavity, probably impelled upwards by mucous currents. In spite of this upward current, however, the upper part of the generative canal remains free from germs under ordinary conditions. In the lower part micro-organisms of many kinds normally live and thrive and among them are frequently found pathogenic germs, such as staphylococcus pyogenes albus and streptococcus pyogenes, probably in a state of diminished virulence. The upper boundary of the germ-containing portion is somewhere in the cervical canal; above this, in the epithelium and discharges of the body of the uterus, in the Fallopian tubes and the peritoneal cavity, no germs are found in the epithelium or secretions under normal conditions.

The body in a state of health is able to protect itself from invasion by germs and although these are the cause of certain affections, other suitable conditions must be present—that is to say, the organisms must be placed in favourable circumstances. Virulent cultures of pathogenic organisms such as the streptococcus pyogenes have been introduced into a healthy vagina and found to disappear in a very short time, while, as is well known, a similar introduction in other circumstances, as for instance, during parturition, may rapidly lead to the patient's death. Here as elsewhere not one agent, but a number of causes all converging towards the same point, are necessary for the production of disease.

It is necessary to distinguish between the time of implantation of pathogenic germs in the genital canal and that of their further spread either higher up the canal or into the tissues; a considerable period, amounting often to years, may intervene between these two occurrences. By far the most common opportunities for the introduction of virulent organisms are afforded by parturition and sexual intercourse. During the process of delivery, either at full term or in the earlier months of pregnancy, germs may be directly introduced, by the hands or fingers of the attendants, by septic instruments or appliances, or by dirty sponges, diapers, or articles of clothing. In sexual intercourse the gonococcus may be implanted, most commonly in the urethra and cervical canal. Much less frequently in these days of aseptic surgery infection takes place directly as the result of operations or of examinations carried out by dirty fingers or instruments. All these opportunities of infection occur practically without exception in women in the full vigour of adult life. In infants and young children the usual mode of infection by germs is direct inoculation by means of towels and clothes that have been defiled by specific discharge from other persons.

Among the conditions that favour the upward spread of organisms, already present or just implanted in the lower genital tract, are parturition and abortion. In pregnancy a great development of blood-vessels and lymphatics takes place in the uterus and its neighbouring organs and tissues, and the circulation of blood and lymph is extremely active both in this condition and for a time after delivery. At the placental site the mouths of large veins are plugged by blood clot. Bruises and lacerations of the tissues take place during the emptying of the uterus and afford a suitable nidus for the growth of germs; while the discharges, at first, unfavourable to such growth, soon appear to lose their protective properties. All these conditions are most favourable after delivery at term, but are present to a varying degree after abortion at any time. Menstruation also affords opportunities favourable to the extension of germs, more especially under certain conditions, such as over-exertion or exposure to cold. At this time the general resistance of the body is lowered, the patient feeling "unwell," and the menstrual discharges appear in certain circumstances to become altered in quality and suitable for the development of germs. Injuries produced by rough examination or by operations may lead to the spread or renewed activity of germs already present, as not uncommonly happens after forcible reduction of an adherent retroversion, or after curetting in the presence of a chronic salpingitis or pelvic peritonitis. The acute exanthemata also play a part in this respect, and it is probable that a certain number of cases of chronic pelvic inflammation in virgin adults may really have originated in an attack of scarlet fever or measles in childhood. Lawson Tait saw a number of cases of pelvic inflammation arising in small-pox in the Birmingham epidemic of 1872.

Puberty and the climateric also appear to have some influence. At the former epoch tuberculous affections of the generative organs not uncommonly occur, and at the latter inflammatory conditions of the organs that may have been dormant for years are apt to take on renewed activity.

When invasion or extension takes place the result depends, in the first place, upon the degree of virulence of the germs; instances have not been wanting where a virulent variety of germ, of streptococcus for instance, has created havoc in a number of obstetrical cases; even in such a series great individual variations are observed in the degree of injury inflicted upon different patients: many may die, others recover after a prolonged and painful struggle, and still others escape with comparative impunity. In the second place, the severity of the infection depends on the number of germs getting access to the body; this is only true to a certain extent, a relatively small number of virulent streptococci, for instance, being sometimes sufficient to cause death, while a large inoculation may only lead to a localised suppuration. The result depends, in the third place, on the resistance of the patient's tissues and blood fluids. This resistance is of extreme importance in determining the issue of the infection and must be invoked in explanation of the great variations in the severity of cases in the same epidemic. It is notorious that in certain conditions—such as chronic alcoholism, diabetes, chronic Bright's disease—the bodily resistance to invasion by the germs of wound and puerperal infection is greatly diminished; while the presence of a chronic inflammation, especially of a pus focus, forms a place of lessened resistance to the growth of septic and putrid organisms. Our knowledge of this part of the subject is, however, very limited, and convenient methods of observing and measuring the resistance of the body, local and general, are much to be desired.

The germs concerned spread further into the body along different routes, which depend to a considerable extent on peculiarities in the vital functions of the germs themselves. The best understood examples in this connexion are the two commonest causes of pelvic inflammation—the streptococcus, which tends to penetrate the tissues and spread along the lymphatics and blood-vessels; and the gonococcus, which tends to extend by continuity along certain surfaces. Let us first briefly consider the sequence of events that follows on streptococcus invasion.

Invasion by streptococcus pyogenes.—In the case of puerperal infection by the streptococcus the germ multiplies first in the fluids and on the surface of the endometrium, whence in some cases it penetrates into the uterine wall, either at the placental site or over the whole surface of the endometrium. In other instances invasion takes place by way of a laceration of the vagina, cervix, or other part of the genital canal. In the most severe and fatal cases the spread is first along the lymphatic spaces, by which it easily penetrates the thickness of the uterine wall until it attains the close and abundant plexus of lymphatic vessels immediately under the peritoneal covering of the organ. Through the serous membrane the streptococcus passes into the peritoneal cavity where it sets up a varying degree of peritonitis; if the patient survives the infection may invade the ovary from its peritoneal surface, giving rise to different varieties of ovaritis, follicular and interstitial; the Fallopian tube is invaded through its open peritoneal end, and may be closed as a consequence of peritonitis, the fimbriæ being plastered down on to some neighbouring surface.

In other cases the streptococcus spreads along the lymph vessels in the uterine wall into the ovarian or uterine plexus of lymphatics and gives origin to a lymphangitis. Where the spread takes place along the ovarian lymphatic plexus the resulting inflammation may extend widely in the posterior part of the iliac fossa and up the back of the abdomen, irritating and setting up inflammation in the lumbar lymphatic glands at the level of the lower ends of the kidneys; where the uterine lymphatics are invaded the inflammation extends outwards between the layers of the broad ligament to the side of the pelvis, the iliac glands being implicated, especially those at the bifurcation of the common iliac and along the external iliac vessels. A further result of extension along the ovarian plexus may be the spread of inflammation into the hilum of the ovary along the communicating ovarian lymphatics, and it is even possible that in rare instances the Fallopian tube may become similarly infected. Lewers, at the Obstetrical Society in 1888, showed a specimen taken from a patient who died ten days after labour, in which inflammation had arisen between the layers of the right broad ligament and had spread into the ovary causing fibrinous adhesions and a small abscess.

In other cases, usually less rapid and certain in their course, the streptococcus invades the large veins which, filled with blood clot, are present in considerable numbers at the placental site. The invasion causes an extension of clotting into the communicating veins, and this thrombosis may be limited to the walls of the uterus itself or may spread along the uterine or ovarian veins between the layers of the broad ligaments. The thrombosis may thus extend along the ovarian veins as far as the inferior vena cava or the renal veins or along the uterine into the internal iliac vein and so into the common iliac and inferior cava. As a result portions of breaking-down blood clot may be carried to the lungs or to the other organs and tissues of the body, giving rise to pyæmia.

When the streptococcus spreads along the lymphatics or the veins the neighbouring cellular tissue participates more or less widely in the resulting inflammation. Thus the organism may give rise to peritonitis or to cellulitis but neither affection is, as a rule, pure, peritonitis being always accompanied by some degree of inflammation in the subperitoneal connective tissue, and cellulitis being generally accompanied by more or less exudation or adhesion in the overlying peritoneum. In some cases, apparently not very common, the streptococcus appears to spread, like the gonococcus, by continuity along the mucous surfaces.

Invasion by the gonococcus.—The gonococcus appears to be capable in some cases of penetrating deeply into the tissues or invading the blood-vessels or lymphatics, like the streptococcus, but its usual course is along the surface of the mucous membrane, giving rise to inflammation of very varying severity. In the body of the uterus it gives rise to endometritis, which may be glandular or interstitial or both. In the tube it causes endosalpingitis, which may not pass beyond the serous stage or may result in the production of copious pus; the muscular and peritoneal coats of the tube are involved in degree varying with the severity of the infection; they may swell and elongate so as to extend over the fimbriæ, which thus become folded in the lumen of the tube. The tube thus becomes closed in consequence of the inflammation of its walls—salpingitic closure. In the peritoneum the gonococcus sets up inflammation which is usually localised and may or may not be attended by the formation of pus. As a consequence peritonitic closure of the tube may take place.

Other germs.—Besides the streptococcus pyogenes and the gonococcus many other germs give rise to inflammation of the female pelvic organs, alone or in combination. Among the commonest are the staphylococcus pyogenes aureus and albus, the pneumococcus, and the bacillus aerogenes capsulatus. The bacterium coli commune is apt to spread rapidly through the tissues after the death of a patient so as to prevent the discovery at post-mortem examination of the organism that caused the fatal inflammation. It is, however, a frequent cause of infection during life; in the puerperium it is often found in symbiosis with the streptococcus and appears to render the prognosis graver. At other times it invades chronically inflamed organs from adherent intestine and it appears to be a not uncommon source of secondary infection of old tuberculous appendages.

THE REACTION OF THE TISSUES TO INVASION BY GERMS.

So far we have been devoting our attention to the doings of the invading germs. Let us now turn our attention to the efforts that are made by the body to overcome the invasion. First, we have to remember that the infection is not a merely particulate one, but that the germs as a result of their vital biochemical processes, may act upon the tissues, and especially the fluids of the host, in at least three ways: (1) by withdrawing material for food; (2) by excreting substances that are useless or that have been partially used for food; and (3) by the manufacture of bodies definitely intended to be poisonous to the host. In some or all of these ways a toxic effect is exerted at first in the immediate vicinity of the germs, where the circulation becomes hurried in vessels which are first contracted but quickly become dilated. Soon the circulation becomes slower, until stasis occurs. As these changes proceed exudation takes place first of inflammatory lymph and then of leucocytes with a number of red corpuscles varying with the severity of the infection. The effusion of lymph gives rise in the solid tissues to a soft boggy swelling known as inflammatory œdema. Soon the lymph coagulates, fluid serum draining away in large quantities through the lymphatics and carrying with it toxins into the circulation, while a solid fibrinous network is deposited in the tissues giving rise to brawny hardness. When lymph is exuded into the peritoneal cavity the same clotting takes place, fibrin being deposited on the surface of the serous membrane and in the subperitoneal tissues, while the serum either at once drains away or collects in pockets bounded by adhesions of the adjacent viscera or by delicate transparent lamellæ of lymph; in this way an elastic or fluctuating tender swelling is formed.

The exudation of sero-fibrinous material forms the first line of defence against the invading germs. At the same time as it is forming the absorption of toxins from the marauders acts as a powerful message to the phagocytes, paralysing them in the worst cases so that they keep their distance; in other cases stimulating them to hurry in crowds to the field of danger. This effect of the invasion of germs is known as chemiotaxis, negative in the former grave cases, positive in the latter and more hopeful.

As phagocytes act the endothelial cells lining the capillary vessels and lymphatics, and the polymorphonuclear leucocytes which escape from the blood-vessels, and which in inflammation are produced in increasing numbers, chiefly by the bone marrow. At the scene of conflict the phagocytes collect in varying numbers, forming masses distributed at intervals along the vessels and through the tissues, and in some instances thick strata mixed with fibrinous coagulum on the invaded surface. The phagocytes take up and destroy the invading germs, or the germs penetrate and grow in them and ultimately cause their death. As the fight goes on a third barrier is erected by the formation of a layer of granulation tissue either on the injured surface or round the collections of dead leucocytes, necrotic tissue, and weakened or dead micro-organisms that result from the conflict.

The absorption into the circulation of poisons from the living organisms or from their dead bodies, together with the response made by the blood and tissues in the formation of antibodies of many kinds, gives rise to the most profound and varied effects on every organ and function of the body. The circulation is hurried; the pulse is more frequent and often at first bounding but soon becomes small and soft, until finally it may cease to be felt at the wrist; the blood is altered, the leucocytes being increased in number, while the red corpuscles diminish in number and quality and often alter in shape; the temperature of the body is usually raised but in the worst cases becomes subnormal and remains so until death ensues. The nervous system suffers, sleeplessness and delirium become common, and the whole neuromuscular tone of the body becomes profoundly altered, as shown by the powerlessness of the patient and the aspect of grave illness in the altered features. The gastro-intestinal, the hepatic and renal organs partake with the rest of the body in the widespread disturbances of function and structure.

The host may succumb or may be able at any point to put an end to further invasion. In the worst forms of puerperal infection death may result in from 24 to 48 hours; in such cases no inflammatory reaction may be observed; the walls of the uterus at the seat of invasion contain large numbers of germs, usually streptococci; and a few ounces of serum, generally blood-stained, are present in the peritoneal cavity and teem with the germs. In mild cases a moderate amount of sero fibrinous exudation with few leucocytes may suffice to put an end to the invasion; or there may be a considerable fibrinous or fibrino-purulent effusion, as happens more especially in pneumococcal, gonococcal, and tuberculous infections. In other cases pus forms, often in large quantities, and may drain away from the producing surface or may be retained in irregular collections in the tissues or in hollow organs. In still other cases, especially in infections by the bacterium coli or by certain varieties of saprophytic germs, considerable destruction of the tissues takes place, giving rise to sloughs or gangrene, and to the formation in the organs, peritoneal cavity, or cellular tissue, of collections of stinking, discoloured, blood-stained putridity.

When the fight is over the injuries remain to be repaired and the débris to be removed from the field of battle. The repair and removal may be complete but are often incomplete, or take months or years for their accomplishment. Repair takes place by means of newly formed fibrous tissue and epithelium. Serous exudations are usually absorbed but in certain circumstances may remain for many years or gradually increase, as in the case of hydrosalpinx and of certain ovarian cysts resulting from perioöphoritis. Fibrinous deposits become absorbed, being replaced by fibrous adhesions which, in connexion with the more moveable abdominal organs, often become absorbed to a remarkable extent; in the neighbourhood of the less moveable uterus and appendages absorption appears to be less notable. Small collections of dead leucocytes and fibrin in the tissues undergo fatty degeneration and become absorbed. A larger collection of pus may continue to act as an irritant and keep up surrounding inflammation until it reaches a surface and makes its escape. Or such a collection may remain quiet sometimes for many years; in this case the locality of the pus is always a place of lowered resistance, and it is liable on slight causes—as the result of cold, of a blow, of a fall, or of over-exertion—to break out into renewed activity. In other cases a collection of old pus gives rise to a condition of general ill health, presumably by the long-continued absorption of small doses of toxin; in this way a condition of chronic neurasthenia may result or, as happens in some cases of old-standing pyosalpinx, the patient becomes prematurely aged, haggard, and worn-looking, and finally wastes and dies from exhaustion or as the result of a terminal infection.

CLASSIFICATION.

The most desirable classification of pelvic inflammations would be according to the germ which is present. In very many cases, however, it is not possible to make certain of the causative germ, more especially in the chronic cases, in which the microbes have died out and left no distinctive trace of their action, as in many cases of puerperal and gonorrhœal salpingitis. Moreover, the same germ may give rise in different patients, or in combinations in the same patient, to every degree of inflammation, serous, fibrinous, or purulent. From the clinical point of view it is customary and convenient to divide the cases into catarrhal or non-suppurative and suppurative, the latter including all cases where an amount of pus has been formed sufficient for detection by the unaided sight. In the catarrhal group are included many cases that really depend on invasion by known pathogenic organisms. This statement is based on the fact that the two groups shade imperceptibly into each other; on a comparison of the appendages in many so-called catarrhal cases with those of the less affected side in cases of suppuration; and on a consideration of the infinite variety in degree and extent of inflammations known to be caused by the same germ.

The non-suppurative group includes hydrosalpinx and a heterogeneous and not entirely satisfactory collection of cases of catarrhal salpingo-ovaritis. Among the catarrhal cases in my list are 42 in which salpingitis was the leading feature. The tubes presented all degrees of alterations: in some there were congestion and œdema of all the coats, usually with a small amount of accompanying pelvic peritonitis; in others great thickening and induration of the muscular and peritoneal coats with marked peritonitic changes; in others, again, there were universal adhesions to the surrounding structures with or without closure of the peritoneal ostium, but without distension of the lumen; and finally in two cases the process had resulted in atrophy, the tube and ovary forming a small, densely adherent, puckered mass, with shrunken broad ligament. The affection was bilateral in about two-thirds of the cases. Catarrhal salpingitis appears to favour the occurrence of tubal gestation, in many cases of which more or less extensive old fibrous adhesions are observed about the pelvic peritoneum and appendages of the pregnant or opposite side; in a considerable proportion of the cases the tube on the opposite side to the pregnancy is converted into a hydrosalpinx. A second group included 18 cases in which various changes in the ovary were the salient features.

Corpus luteum cysts	6
Graafian cysts	3
Small cystic ovaries	4
Widespread adhesions of ovaries	5
Total	18

In this group the affection was bilateral in four and unilateral in 14. The Fallopian tubes showed evidence of catarrh in a few and were adherent in several more cases. In two of the cystic ovaries there were no adhesions near the fimbriated extremity, but firm old membranes bound the middle of the tube to the ovary and back of the broad ligament. In one of these the patient was just recovering from the fifth attack of acute pelvic peritonitis that had occurred in three and a half years, and in the other chronic illness and neurasthenia had existed for three years, in both patients since the last labour. The frequent coexistence of small Graafian and corpus luteum cysts with adhesions and other signs of old inflammation of the Fallopian tubes and pelvic peritoneum suggests a causal connexion between the two conditions, so that it seems preferable to include many of these small cysts with inflammations of the appendages rather than with neoplastic formations.

The Fallopian tube may become closed at its fimbriated extremity either as a consequence of salpingitis, the inflammatory swelling of the muscular and peritoneal coats extending over and invaginating the fimbriæ, or as a consequence of pelvic peritonitis, the fimbriæ becoming plastered down on to the ovary or other neighbouring surface. It is frequently impossible to decide by which of these methods a particular tube has become closed. In 73 instances where this was possible salpingitis had been the cause of the occlusion in 41 and peritonitis in 32. The two tubes of the same patient are not infrequently closed by different methods, one by salpingitis and the other by peritonitis. When the peritoneal ostium has become closed a tube may remain empty or may become the seat of a collection of fluids of different kinds, serum, pus, or blood.

Hydrosalpinx.—An occluded tube containing serous or watery fluid in greater amount than a drachm or two is called a hydrosalpinx. The amount of fluid varies from a few drachms to two or three pints and the shape of the resulting tumour varies according to the amount of distension, being usually club- or retort-shaped in small and moderate-sized cases and banana-shaped or globular in the larger ones. The fluid contained in the smaller varieties is serous and in the larger becomes thinner and more watery. No germs are present in film or culture. In some cases there are few or no adhesions, but, as a rule, fibrous adhesions about the original site of the peritoneal ostium bind this part of the sac firmly to the surface of the ovary, the back of the broad ligament, and the side and floor of the pelvis. Hydrosalpinx appears in its origin to be a result of catarrhal salpingitis and pelvic peritonitis, but when of long duration acquires the characters of a retention cyst. In five cases of double hydrosalpinx in which the accumulation of fluid amounted to eight or ten ounces or more the time taken in the accumulation had extended over many years, one containing three pints of fluid having probably existed for 18 years. A large proportion of my cases of hydrosalpinx have been found in operations undertaken for other conditions. In tubal pregnancy the tube on the opposite side is often converted into a hydrosalpinx (nine in 62 cases); hydrosalpinx was also found in association with uterine fibroids (six cases), with large fibroma of the ovary, and in a few cases with large ovarian cysts; it was also found with prolapse of the uterus in two cases and with pyosalpinx on the opposite side (five out of 109). Certain accidents are occasionally observed in connexion with hydrosalpinx. Axial rotation has occurred many times, and hæmorrhage into the contained fluid is not uncommon, especially in connexion with tubal pregnancy on the opposite side. As a rare occurrence the fluid escapes through the uterus in gushes from time to time—intermittent hydrosalpinx.

Pyosalpinx.—Pyosalpinx is the name given to a Fallopian tube closed at its peritoneal opening and containing pus. The condition usually arises as a consequence of inflammation spreading from the uterus directly into the tube, but may sometimes arise in peritonitis by extension of inflammation through the peritoneal ostium, as is frequently observed in tubercle and sometimes in puerperal cases. Occasionally pyosalpinx on one side co-exists with hydrosalpinx on the other. A pyosalpinx usually forms an extensively adherent thick-walled hard tumour, but occasionally (eight cases in 109) is less adherent and contains a large collection of pus in a relatively thin-walled cavity, thus to some extent resembling hydrosalpinx. The amount of adhesion varies greatly in different cases, but the omentum and some coils of small and large intestine are usually involved, in addition to the denser and more extensive adhesions to the ovary, back of the broad ligament, uterus, and floor of the pelvis. Among my cases, pyosalpinx was bilateral in 55 and unilateral with normal appendages on the opposite side in only 18.

Pyosalpinx.—

Bilateral in	55
With hydrosalpinx on opposite side	5
With salpingitis	20
Opposite appendages not noted	11
Opposite appendages normal	18
Total	109

Pyosalpinx is frequently complicated by ovarian abscess (17 in 109) and somewhat less frequently by collections of free pus in the peritoneal cavity (12 in 109). The contained pus is found to be sterile in a large proportion, usually more than half the cases. In 13 of those included in my list pus was sterile in four, saprophytes or bacterium coli were present in five, and streptococcus, staphylococcus, staphylococcus and pneumococcus, and the gonococcus in one each.

The following was the result of bacteriological examination:—

Bacteriology of Pyosalpinx.

Sterile	4
Streptococcus	1
Staphylococcus albus	1
Staphylococcus and pneumococcus	1
Gonococcus	1
Saprophytes	5
Total	13

In addition to abscess of the ovary and intraperitoneal abscess many other complications occur in cases of pyosalpinx. Hæmorrhage into the contained pus is not infrequent and ovarian hæmorrhages are common. Rupture of a pyosalpinx not rarely happens as the result of straining or over-exertion, as, for instance, in lifting weights. In other instances rupture occurs as the result of rough examinations or manipulations, as, for instance, in the forcible reduction of a retroverted uterus or during the enucleation of a submucous fibroid. Rarely axial rotation of a pyosalpinx has been observed. Sometimes cicatricial contraction of the tissues at the base of a pyosalpinx leads to compression of the ureter with its consequences, dilatation and hydronephrosis, and tendency to suppuration of the kidney. In association with tubal gestation on the opposite side pyosalpinx is occasionally found. I have myself operated on one such case and have assisted in two others, one complicated by tubo-ovarian abscess and the other by an acute gonorrhœal salpingitis. Complications on the side of the uterus are very common, more particularly in the form of chronic metritis and endometritis, the remains in many cases of the original infection from which the tube became secondarily infected. Displacements of the uterus are also common and prolapse was present in four of my cases. Fibroids are not uncommonly associated with pyosalpinx, which adds a grave risk to the operation of hysterectomy.

Pyosalpinx is less frequently seen in cases of carcinoma of the cervix. Pregnancy may supervene in a patient with pyosalpinx on one side, as happened in one of my cases, where rupture of the pyosalpinx and fatal peritonitis occurred at the sixth month.

Ovarian suppuration.—Abscess of the ovary may arise in a corpus luteum or in a Graafian follicle, or suppuration may be disseminated irregularly through the stroma of the organ. The exciting micro-organisms reach the ovary in at least two ways: the peritoneal surface may be infected by pus escaping from the open end of the Fallopian tube or forming in the pelvic peritoneum, or pyogenic organisms may extend outwards through the wall of the uterus and along the lymphatics to gain an entrance through the hilum of the ovary. The relation of the Fallopian tube to the suppurating ovary in my cases shows that, at any rate in the subacute and chronic cases, by far the most frequent route of infection is by way of the tube.

When infection takes place from the peritoneal surface a corpus luteum is most frequently the seat of suppuration. In all my cases of suppurating ovary, with one exception, the patient was parous, the interval between the last pregnancy and the date of operation varying from three months to 31 years. In 12 of the total number of ovarian abscess cases operation was undertaken in eight months or less after parturition. Of seven cases in which a bacteriological examination was made, in four the pus was found to be sterile, while in the other three it contained streptococcus, gonococcus, and staphylococcus pyogenes aureus, each in one case.

Excluding from consideration suppuration of large ovarian cysts, I have operated in 31 cases of suppuration of the ovary, including one case of tuberculous suppuration of a solitary ovarian cyst of the size of a duck's egg. In 18 of the remaining 30 cases suppuration had taken place in a corpus luteum and in 12 apparently in Graafian follicles, the abscess in these cases being solitary in nine and multiple in three. In one of the 30 cases the ovary was removed through a posterior vaginal incision and the Fallopian tube was ascertained at a subsequent abdominal section to be inflamed and densely adherent at its outer end. In the whole of the rest of the cases the Fallopian tube showed signs of inflammation, pyosalpinx being present in 17, while in the other 12 the tubes were inflamed without the production of obvious pus In another case not included in this group the process of labour caused rupture of a moderate-sized dermoid ovarian cyst on the right side and at the same time rupture of an old pyosalpinx on the left side. The patient was admitted in a desperate state of septic peritonitis and died after operation from perforation of the sigmoid flexure where this had been adherent to the pyosalpinx.

Tuberculous salpingitis.—The tubercle bacillus rarely gains access to the Fallopian tube and pelvic peritoneum by way of the uterus and vagina. The usual routes are by way of the peritoneum or through the blood stream. The germs may be absorbed from the digestive or respiratory tracts and lodge in the bronchial, mediastinal, or mesenteric glands, whence at a later period they may be carried to distant organs and among others to the Fallopian tube or ovary. From the peritoneal cavity the tubes are frequently secondarily infected. Commonly enough miliary tubercles are seen scattered over the peritoneal covering of the tubes and broad ligaments, and fluid exudations in the peritoneal cavity convey germs through the open ostia of the tubes. Tuberculous peritonitis in the female is associated with salpingitis in 50 per cent. of the cases, and in most of these the tube is affected secondarily from the peritoneum. The genital tract may also be invaded by extension from other tuberculous organs, as, for instance, from the cæcum, rectum, or base of the bladder. When the generative organs are affected by tubercle the seat of the disease is by far most frequent in the Fallopian tubes (90 per cent.), and this appears to be due to the direct communication between the interior of the tube and the peritoneal cavity. Where the uterus is tuberculous, in the majority of cases the infection proceeds from the tubes by direct extension.

Of 20 patients operated upon by me for tuberculous peritonitis, in 11 it was ascertained that the Fallopian tubes were affected, in several of them the ovary also taking part in the disease. In three cases as observed after removal of the uterus the endometrium was extensively involved.

Hæmorrhages in connexion with salpingitis.—Effusions of blood are frequently observed in connexion with chronic inflammations of the uterine appendages. In hydrosalpinx, especially when it coexists with pregnancy of the opposite tube, the fluid is usually found more or less deeply tinged with blood. In pyosalpinx, also, hæmorrhage may take place into the wall or contents (four cases), or may be found in the corresponding ovary (21 in 109 cases). The most frequent situation of the ovarian hæmorrhage in these cases is in connexion with the follicles, which are often seen surrounded by a red border one-sixteenth of an inch or so in thickness, due to hæmorrhage in the tunica interna. The contents of such follicles may be clear, but more frequently consist of clotted blood. Less frequently hæmorrhage occurs in connexion with corpora lutea either in the interior or, as sometimes happens, forming a broad band round the periphery. Irregular interstitial hæmorrhages are less common. Similar ovarian hæmorrhages occur, but less often, in connexion with non-suppurative affections of the tubes; they were present in five out of 41 cases of catarrhal salpingitis. Occasionally as the result of severe salpingitis hæmorrhage may be more extensive and escape into the peritoneal cavity to form a hæmatocele. Such cases appear to be far from common and great care has to be taken to exclude the possibility that a tubal gestation has been the cause of the condition. I have only seen two cases of pelvic hæmatocele in which a careful examination made it highly probable that the originating cause was salpingitis. In one of these a married sterile patient, aged 39 years, had been losing flesh for 12 months and was just recovering from her third attack of pelvic peritonitis. There were marked catarrhal salpingitis on both sides and recent acute pelvic peritonitis. The other case occurred in a patient, aged 28 years, also sterile, who had had repeated attacks of inflammation for two years, and whose right tube was closed by peritonitic adhesions in which there were yellowish caseous collections, probably tuberculous.

Hæmatoma of the ovary.—In 11 other cases grouped as inflammatory, I have seen hæmatoma of small and moderate size in the ovary of both sides in five and of one side in six. All the patients complained of severe and long-continued pains, most of them with acute exacerbations resembling attacks of pelvic peritonitis. In five of the cases the ovaries were densely adherent, although in two out of the five the tube was free and apparently normal. In two other cases, making four in all, the tubes appeared to be normal, and in the other seven the tubes were either catarrhal or adherent; in one case there was recent acute pelvic peritonitis. In all the 11 cases the blood cyst in the ovary appeared to be the main cause of the patient's illness. The class of patient in whom ovarian hæmatomata were observed differed markedly from those in whom the other forms of inflammation are observed, in that four of them were single and five were married nulliparæ; the other two patients had each borne one child, one nine and the other 22 years before operation; the age of the patients varied from 19 to 39 years. Three of the five married nulliparæ were probably gonorrhœal.

BACTERIOLOGY.

In 12 recent puerperal infections micro-organisms were found in every case, the streptococcus being present in ten, in four in pure culture and in the other six in association with staphylococcus pyogenes aureus and other varieties of germs. In 43 cases of subacute and chronic suppurative pelvic inflammations no germs were present on films or culture in ten. Streptococcus grew in pure culture in ten, and in association with other germs in five. In 13 cases various forms of saprophytes were found, and in the remaining cases staphylococcus aureus and albus, pneumococcus and bacterium coli commune were observed.

Bacteriology of Recent Puerperal Infections.

Streptococcus	4
Streptococcus with staphylococcus aureus	2
Streptococcus with other forms	4
Small stout bacilli	1
Saprophytes	1
Total	12

Bacteriology of Cases of Subacute and Chronic Suppurative Pelvic Inflammations.

Sterile	10
Streptococcus in pure culture	10
Streptococcus with other germs	5
Staphylococcus aureus	2
Staphylococcus albus	1
Staphylococcus with pneumococcus	1
Bacterium coli	1
Various forms of saprophytes	13
Total	43

INCIDENCE.

The age of the patients varied from 17 to 54 years. Only seven were 20 years or less and of them three had tuberculous appendages, two had inflammations originating in childbed, and one gonorrhœa, while in the seventh case, in a girl, aged 18 years, a fœtid intraperitoneal abscess of considerable extent and obscure origin suddenly made its appearance and rapidly increased; rapid recovery followed upon a posterior vaginal incision and the diagnosis therefore remained pelvic abscess simply. 11 of the patients were 46 years of age and upwards and of these five were 50 years or more; in each of the five a suppurative condition had probably existed for from 11 to 31 years and had then given rise to acute symptoms demanding operation. All the other 242 patients, more than 93 per cent., were between 21 and 45 years old—that is to say, at the age when they should have been at their best as active and useful members of society.

Among the 260 cases suffering from pelvic inflammations were 29 single and nulliparous patients. Such patients suffer from tuberculous affections with much greater relative frequency than parous women; of 13 patients with tuberculous affections, including one of hydrosalpinx and one with tuberculous suppurating ovary, nine were single and two more sterile. Among the patients suffering with ovarian hæmatoma single and sterile women also formed the great majority; of 11 such patients four were single and five married but nulliparous women. In the other groups of cases single women are relatively much less frequently found. Of 109 cases of pyosalpinx only eight occurred in single women; of the eight, four were probably gonorrhœal and two were due to secondary infection by saprophytes of old tuberculous appendages. The origin of the pyosalpinx in the other two was obscure. Of 29 patients with intra-peritoneal pelvic abscess five were single and nulliparous; in one of these the abscess was due to suppurating silk ligatures remaining after a laparotomy performed elsewhere, one was due to suppuration of a hæmatocele two years after supravaginal hysterectomy had been performed elsewhere, and the cause of the other three was not satisfactorily made out. 21 out of 97 patients suffering with non-suppurating inflammations and 34 out of 163 with suppurating conditions were sterile married women. Satisfactory clinical evidence of gonorrhœa was obtained in 48 cases. In two of the non-suppurative cases and seven of pyosalpinx the patients were syphilitic.

Table showing Incidence of Pelvic Inflammations.

—	Single.	Sterile.	Pluriparous. Last pregnancy.		Total.
			Abortion	Term.	
Salpingitis	3*	7	7	25	42
Ovaritis and small cysts	0	3	5	10	18
Ovarian hæmatoma ...	4	5	0	2	11
Hydrosalpinx	1†	6	7	12	26‡
Totals	8	21	19	49	97
Pyosalpinx, 17 with suppurating ovary, 12 with pelvic abscess ...	8	26	15	60	109
Suppurating ovary without pyosalpinx	1†	1	0	12	14
Pelvic abscess	5	5	6	13	29
Tuberculous appendages	7	2	0	2	11
Totals	21	34	21	87	163

* One after pelvic abscess. † Tuberculous.

‡ Including three in which operation was undertaken for other conditions, not including tubal gestation.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—Mr. J. Dundon, F.R.C.S. Eng., and Mr. L. G. Gunn, F.R.C.S. Irel., have been elected additional examiners in surgery.

NEW CONVALESCENT HOMES.—A convalescent home scheme has long been the desire of the friends of the Manchester and Salford Hospital Saturday Fund and at length it is in operation. There is a temporary home for women at Arnside on Morecambe Bay and the first inmates were received some weeks ago. At present there is accommodation for 30 patients, but the house can, if necessary, be much enlarged. The men's home, Plas Mariender, at Penmaenmawr, was opened towards the end of May. Here there is accommodation for between 30 and 40 men, but extensions are contemplated in the future. Both at Arnside and Penmaenmawr the patients have given warm expression to their appreciation of the comforts of their pleasant homes.

The Harben Lectures
ON
EXPERIMENTAL RESEARCHES ON SPECIFIC THERAPEUTICS.

Delivered at 20, Hanover-square, London, under the auspices of the Royal Institute of Public Health,

BY PROFESSOR PAUL EHRLICH, M.D.,
DIRECTOR OF THE KÖNIGLICHES INSTITUT FÜR EXPERIMENTELLE THERAPIE, FRANKFORT.

LECTURE I.

Delivered on June 5th.

IMMUNITY WITH ESPECIAL REFERENCE TO THE RELATIONS EXISTING BETWEEN THE DISTRIBUTION AND ACTION OF ANTIGENS.

GENTLEMEN,—There can be no doubt that the three great fields of knowledge—pharmacology, toxicology, and therapeutics—in their theoretical and practical aspects form the most important branches of medicine. Pharmacology has but just emerged from the stage of pure observation and description. One was content formerly with describing the physiological effects and the secondary action of substances which act pharmaco-dynamically and the changes which they bring about in the organs and tissues of the body from the morphological standpoint. It is to the great influence which chemistry exerted on medical science that we owe a change in this state of affairs. It was about the middle of the last century that the influence made itself specially felt. But therapeutics were chiefly symptomatic, and so it is in many cases to-day. The features of an etiological treatment, directed against the causes and the seat of disease, were not satisfactorily brought out by merely insisting on the relationship which existed between the constitution of drugs and their action; the fact was overlooked that between chemical constitution and pharmacological action another and important bond of union exists which influences the relations between the pharmaco-dynamic agent and the substance on which it is intended to act. This bond of union is the mode of distribution and represents the sum of the peculiarities of the cells and tissues and of the drug.

I may mention that from the beginning, as the result of my studies on dyes, I have endeavoured to point out the necessity of the study of localisation—in a word, to give pharmacology an etiological and therapeutic tendency. Great must be our admiration for the powers of nature, in view of the fact that the living organism, when it takes upon itself the production of curative agents, does this in such a manner that they form ideal etiological remedies.

The protective substances of the blood, regarding which I shall speak to-day, completely fulfil the requirements of the case, and the study of antigens and antibodies may form the basis of the relationships which must exist between constitution, distribution, and action in order that our treatment may be successful. The discovery of antitoxins by von Behring, fundamental in itself, opened to pharmacology and therapeutics this new field: antitoxins and antibacterial substances strike only those objects for whose destruction they have been produced by the organism. I call these substances monotropic; the monotropism of these antibodies is characterised by the fact that they are bacteriotropic or etiotropic in general—i.e., they are directed against bacteria or against those products of their metabolism (toxins) which cause disease. The definition of monotropism is, therefore, here overlapped by that of specificity which, in the language of the study of immunity, characterises monotropic action. As the cause of this specificity we must note, in my opinion, only the effect of chemical relations which exist between the agents of infection or their products and the antibodies.

From the very beginning my standpoint has been that all those substances which have the power to bring about the creation of antibodies, I mean the antigens, must be entirely separated from the other pharmaco-dynamical and poisonous substances as a matter of principle. That difference I consider to be of the greatest importance, and this is further borne out by the fact that in spite of the most strenuous endeavours we have been unable to find any antigen of a known chemical constitution. I believe that in the absorption of antigen-like substances by the body we have a phenomenon which bears a close resemblance to the assimilation of nutritive substances. In the case of the other poisonous substances we have more simple phenomena as causes of localisation, but, in my opinion, the powers which influence the distribution of toxins and kindred substances belong to the domain of chemical synthesis. It seems to me that the ever-increasing endeavour tó build causal relationships on the ground of purely formal analogies is but *little fitted to advance our knowledge.* The condition therefore necessary for reaction is the presence of two groups, whose chemical relationship is of the closest and whose interaction is therefore the condition of their union. This axiom as to union is the basis of my side-chain theory.

Let us consider in the first place the action of comparatively simple toxins, which differ in the phenomena of *intoxication to which they give rise*; the action of the diphtheria toxin, for example, is absolutely different from that of the tetanus toxin. I designate that group of the toxin molecule which is the cause of its peculiar poisonous action as its toxophoric group, but the presence *of this toxophoric group is not of itself* sufficient to bring about the poisonous action, for whilst the guinea-pig is exceedingly sensitive to the tetanus toxin the rabbit possesses a relative immunity. The *cause of such difference we must* therefore attribute to the distribution or localisation of the *toxin.* When the poison and the sensitive organs do not come in contact or when the latter are not present, the action remains absent. If we assume those peculiarities of the toxins which cause their distribution to be localised in a special group of the toxin molecule and the power of the organs and tissues to react with the toxin to be localised in special atom groups of the protoplasm, we arrive at the basis of my side-chain theory.

The *distributive group of the toxins I call the* "haptophoric group," and the corresponding chemical organs of the protoplasms the "receptors." The relations between the receptors and the haptophoric *groups represent the* conditions under which distribution takes place. The toxic action can occur only *when there are* present receptors fitted to anchor the toxins. In order *that the* poisonous action may take place, we must postulate not only the presence of *receptors, but that they should* be present in positions favourable to the toxic action being brought about. When *both the receptors* and the *organs* sensitive to the action of the poison are *present,* the conditions *for infection* are naturally most *favourable*; then distribution takes place at *once,* the poison circulating until it reaches the sensitive cell. The localisation of the receptors is, then, of great moment *for the distribution* of toxin in the organism, and *consequently* for its sensitiveness to poisonous action. One may therefore, in general, distinguish four *different* types of *distribution*: 1. In which the receptors are not present, the animal possessing natural immunity (the *formation of* antibodies cannot take place). 2. In which receptors are present, but only in those organs *on which the* poison does not act, or in organs of lesser importance; *here,* again, the animal *possesses* natural immunity (antibodies may be formed, and immunisation is easily carried out). 3. *In which the* receptors are distributed over various parts of the organism, and are present in the organs which are sensitive to the action of the poison. Here a relative immunity is present, and infection depends chiefly upon the manner in which the poison is introduced (the conditions for *antibody formation* are present and those for immunisation are *more* or less favourable). 4. In which the *receptors* are present only in the organs which are sensitive to the poison; in this class the organism is exceedingly sensitive to the poison (antibody formation is possible, but immunisation is difficult to carry out and must be begun with small doses or with weakened poisons).

I think that this *systematic* division clearly shows the possibilities of distribution and localisation as well as the conditions under *which* a poisonous action can take place and what *must be* the aim of antitoxic treatment—viz., the alteration of the natural conditions of distribution and interference with the action of the poison. In my view, which is based on extensive experience in experimental research, the *antitoxins* are purely and simply receptors fitted for union with the poisons which have entered the circulation.

I have *always held* the view that the antitoxins do not in any way destroy the toxin, but that they merely limit its *sphere of action* by their union with it. When we speak of monotropism or specificity in the case of antigens and antibodies, we of course mean only the chemical relations between haptophoric groups and receptors. For example, toxins may be specific and yet act upon the cells of all species of animals if the toxin-anchoring receptors be widespread amongst them. The other extreme we find in those cases in which the organism itself reacts to elements introduced into it and forms substances, antibodies, which act on the corresponding antigens; we have here to do with antibodies which are specifically monotropic, just as the antitoxins are, and which affect only those substances *to which they owe their* origin. The only difference is that the antitoxins act by localisation alone; when they have anchored the toxins their work is done. The other antibodies act, it is *true, at first* in a similar way on the substances sensitive to them; but they have a further action on the anchored substances, an action which is either direct, as in those cases (agglutinins and precipitins) in which, like the toxins, they have *special ergophoric* groups, or indirect in that the union is merely preliminary to their further action on their prey. Thus one class of these antibodies has the power of rendering the *cells assimilable* by phagocytes (opsonins, bacteriotropic substances); *another class* (amboceptors) *has* the power of rendering the cells liable to the action of toxin-like constituents of the blood serum (complements). In the latter case by the simultaneous *action of two substances a destructive* effect is produced. These substances are also called cytotoxins. They are of special importance in considering the question of the relations between *constitution, distribution,* and action, because the differentiation between haptophoric and *toxophoric groups exists in their case,* distribution and toxic effect being dependent upon two different substances, the more stable amboceptor controlling the distribution, and the labile complement the toxic effect. The complement has no direct relations with the cell, on which it *acts through* the medium of the amboceptor. It is a normal constituent of the blood *serum* the concentration of which undergoes no change as a result of the *process of immunisation. On the other hand,* the amboceptor is a new formation brought about by immunisation, and, on the ground of the principle already admitted, it must *appear* probable that the amboceptor, like the antitoxins, possesses a marked monotropism for the corresponding antigen. It is the amboceptor alone that stands in direct relation to the cell and is quantitatively anchored by it. This anchoring of the amboceptor takes place with a maximum of chemical energy—it occurs even at 0° C. The union of the amboceptor and the cell has no harmful results on the latter. On the other hand, the *amboceptor-laden cell is exposed* to the action of the complement, which by itself is harmless. As regards complements, what I have said about toxins holds true; they may be regarded as toxin-like substances which *possess* a haptophoric group and a toxophoric group which I call the "zymotoxic" group. *That these* groups are independent of each other is well seen in the case of modified complement—"complementoid," as numerous test-tube experiments have *proved. The* real state of affairs, which has been thoroughly investigated, especially in the case *of* hæmolysins, is this: the intact erythrocytes do not unite with the complement which, however, is anchored by the complex of erythrocyte and amboceptor. The amboceptor and the *complement* stand in direct relationship to one another. I think that the great majority of my colleagues accept the amboceptor theory. It is true that the distributive relation of the complement *in the presence* of the amboceptor is not that of maximum chemical affinity; indeed, we have, *on the contrary,* as a rule an exceedingly loose relationship which perhaps corresponds to a *reversible reaction.* It is owing to the fact that the complement is free, or only loosely united to the amboceptors in the circulation, that at a given moment it is *ready* for use. The maximum stimulus *to action* is rendered possible by the anchoring of the *amboceptor to the erythrocyte,* the avidity of the latter *toward* the complement being thus increased. *This increase* of avidity consists in the chemical affinity of the complementophile group for the complement being carried to its maximum, and represents the gist of our knowledge of the action of the amboceptor. The amboceptor, therefore, exercises the important function of bringing about a specific modification of those conditions existing in the organism which determine the distribution of complements, and which otherwise are not very evident. It causes the complements to become monotropic by its union with the given substance. The complements are thus localised by amboceptors which have previously become united to the substance—cell or otherwise. At the same time this action represents a purposive saving. This is evident from the fact that only in case of need the amboceptor becomes able to combine with the complement, and from the fact that complementoids which, by reason of having lost the zymotoxic group, become incapable of action have at the same time lost some of their avidity for the amboceptor. By this change in the distributive quality of the complement that is associated with the formation of complementoid the sphere of action of the amboceptor is considerably extended. The increase of avidity, which forms the basis of the mode of action of the amboceptor, not only governs the phenomena which occur in the organism, but, since it lends itself to test-tube experiments, also opens up a wide field for serum diagnosis. If we remember that the amboceptors, by their union with the sensitive substances—cells or dissolved bodies—exert such a marked localising influence on the complements, it is evident that in a mixture of an amboceptor and its corresponding antigen, if the presence of the one constituent of the mixture be known, that of the other can be proved by the occurrence of the phenomena of complement-fixation. The peculiar power of the amboceptor to fix a large number of complements is not to be wondered at when we remember the biological function of the amboceptor. This I hold to be, in physiological life, that of seizing upon and elaborating nutritive substances. By its cytophile group the amboceptor is enabled to combine with substances of the most varied kinds provided that they possess fitting receptors. We have, then, merely an increase of purposive function in the fact that the amboceptor is furnished with a host of complementophile groups which enable the most varied kinds of complement to act—it may be simultaneously. This is the consequence of the multiceptive nature of the amboceptor. As regards increase of avidity, the fact that the anchoring of the amboceptor to the cell causes the avidity for the complement to be increased in no way precludes an increase of the avidity of the amboceptor for the cell taking place in consequence of the anchoring of the complement. Besides a few normal amboceptors of the blood serum in which this is observed we find that it occurs in a marked degree in the case of those poisons which act by the united action of two components, the part of the complement being played by lecithin. This power of forming lecithids has been studied in the case of snake and scorpion poisons and bee poison. It is a special characteristic of the formation of lecithids that out of two absolutely non-poisonous substances a powerful poison is formed, which in its biological and physico-chemical reactions differs markedly from the two substances from which it sprang, and does not contain lecithin as such, one fatty-acid residue being removed during the process of formation. I believe that this possibility of the transformation of certain substances, inactive in themselves, from albuminoids to lipoids of powerful action—a transformation which has been proved to occur in the case of snake poisons—plays a prominent part in the processes of the living body and is of importance for distribution and action.

The study of the lecithids from the chemical point of view has shown that in them we have a field in which the phenomena of immunity and those of pure chemistry meet and the hope can therefore be cherished that we may thus obtain a nearer insight into the chemical peculiarities of antigens and antibodies. As to the biological factor in the formation of antibodies, it has been shown that a part of the process takes place in the obscure province of the physiology of stimulation. The receptors of the cell protoplasm are the seat of the process and their regeneration and elimination are the consequence of this. Supposing these processes to occur in the normal organism and to be merely intensified in the case of active immunisation it is possible to understand that antibodies of the most varied kinds may exist in the serum of the normal organism and also to comprehend the processes of immunity by viewing them from the standpoint of the physiology of nutrition and metabolism. One may already by simple means differentiate the multitude of serum substances into antitoxins, amboceptors, agglutinins, precipitins, opsonins, complements, ferments, antiferments, &c., but deeper study of the subject shows that each of these divisions in its turn consists of a multitude of functionally different components, and thus a pluralistic view of the observed phenomena is the only justifiable one. It is the principle of distribution which governs the processes resulting in active immunisation.

The antibodies—the protective substances in the serum—all possess the power of reacting, with maximum chemical energy, with their corresponding antigen, as, e.g., in the anchoring of bacterial cells. This anchoring is a necessary preliminary for further reaction, which may be of the most varied kind. We are acquainted with a number of such haptins, of which the following are examples: (1) the agglutinins, which cause clumping of the cells; (2) the amboceptors, which play the part of carriers in the action of the complement; (3) the opsonins, which render bacteria liable to be seized by the phagocytes, also those haptins which are directed against the contents, or metabolic products, of bacteria; (4) the antitoxins; (5) the anti-endotoxins, which are directed against the endotoxins; (6) the precipitins; and (7) the antiferments, which are directed against certain ferments of the bacterial cells—e.g., pyocyanase. There is no doubt, however, that many more haptins exist.

In order to have an idea of the extreme diversity of the phenomena which cause immunity one must look for other substances whose functions are those which characterise the haptins—the substances, for example, which prevent cell division or those which combat the biological adaptation of bacteria. The possibilities which I have here indicated appear to be limitless and the need for study in this direction is evident. The immunity of an animal is, therefore, explained as being due to the great energy of the cells of its body which are able to appropriate nutritious substances for themselves and in so doing to deprive parasites of them. The opposite condition must be due to a certain disposing influence and immunity of the parasites must be a condition of the cause of infectivity. The bacterial cells may in the same way be immune against haptin substances and may withstand the action of the serum. Thus there exist unstable relations between immunity and infection and between parasite and host, relations which lead to the phenomena of reversible action and still have to be studied.

A Lecture

ON

THE TREATMENT OF CARDIAC DILATATION.

Delivered at the London School of Clinical Medicine on May 6th, 1907,

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GENTLEMEN,—In discussing this subject with you to-day I am not about to enter at any length into the pathology of such conditions as tend to induce dilatation of the chambers of the heart. We may note in passing that single cavities may be thus affected or more especially involved in a general dilatation. To mention instances—the right ventricle in cases of pulmonary emphysema, the left auricle in cases of mitral stenosis. Again, it may be stated that some measure of hypertrophy is common in dilated hearts, having thus been induced by some valvular defect, long antecedent perhaps, or there may be actual thinning of the walls, which may be flabby or fatty, or yet again altered by fibroid substitution. Any degree of dilatation is an indication of debility. The special significance of it is an incapacity for complete or adequate expulsion of the contents of the involved cavities.

In the case of conjoined hypertrophy with dilatation we are in face of a commencing failure and incompetency of function. Hitherto there have been compensation by overgrowth and increased power to overcome obstruction; now this power is lessening and difficulties with various symptoms announce themselves. The patient with adequate compensation has usually no complaints; directly an inadequacy of propulsive power sets in he seeks relief and is aware that his heart is in difficulties. He has symptoms which are readily recognised; these depend mainly on retention of blood in the several cavities which encourages stretching of the cavities and induces a sense of weight and oppression at the præcordia, dyspnœa, and other symptoms. Physical examination reveals an enlarged area of cardiac dulness. The apex beat may be imperceptible, while the impulse of the right ventricle may be appreciable. The latter is not a bad sign, indicating some reserve of power. The pulse is usually irregular and of low tension. The arteries may be hard and dilated if there has been long antecedent high tension now passed off. Or the pulse may be irregular only after some exertion; a rapid pulse is of ill omen. Auscultation may reveal a mitral systolic murmur due to reflux, or the first sound may be short and loud, the aortic second feeble, with a long first pause. If the sounds are heard close together, with a shortening of the systolic pause, the condition is more serious.

The symptoms are numerous in cases of cardiac dilatation. The brain, being imperfectly bathed in blood, gives rise to languor, irritability, and despondency, often to drowsiness. Syncopal attacks may occur with loss of consciousness. Sleep is disturbed and digestion is imperfect with flatulency. The liver becomes engorged and tumid and the urine is apt to be scanty, albuminous, and loaded with crimson lithates. Dyspnœa is readily induced; œdema of the legs gradually supervenes and they become cold and dusky. Ascites, pleural effusion, pulmonary œdema, and general anasarca may be present. Recumbency becomes impossible and insomnia may be distressing, or the snatches of sleep disturbed by frightful dreams. I have here drawn a picture of the graver degrees of cardiac dilatation such as we frequently meet with in hospital practice. We may meet with minor degrees of it. Such cases are always a source of anxiety, but, as we shall find, a good deal may be done for them by judicious treatment founded on a careful appreciation of the conditions present in each particular case.

Now the main indications for treatment are first to promote the power of the heart's walls, and secondly to relieve the venous engorgement which has arisen from their loss of function. The more pressing duty is to unload the venous system. The question of depletion by letting blood has then first to be considered, and the general condition of the patient as to strength, age, and history of the cardiac ailment will determine our action in this respect. It is seldom that we can be justified in a general venesection from the arm, unless it be in small amount, say, to the extent of six or eight ounces. We shall oftener do well to limit our direct bleeding to the application of six or eight leeches to the epigastric or hepatic region. This may not secure more than two or three ounces of blood but the process of leeching now so much neglected, is a source of more relief and comfort than the mere amount of depletion would indicate. There is a marked counter-irritant action induced by leeching which has, doubtless, some beneficial effect. Certainly the relief thus afforded is very marked, the pain, tumidity, and oppression being greatly dispelled. A poultice should be placed over the leech bites and while this encourages further depletion it induces a favourable hyperæmia over a large surface. We may next try to relieve the hepatic congestion further by such purgation as the particular patient can bear with impunity and in this way help to relieve the general systemic venous engorgement. By far the best purgative here is mercury in some form. To urge bleeding and the use of mercury in these days may appear to some of you as a revival of old and effete practices. We are supposed, especially by the public, to have abolished all such methods now and to employ simpler and better ones. Such treatment is thought to be weakening and blood to be too precious to shed in the twentieth century. In my opinion, this is nonsense, and not to employ such measures is to be void of all wise clinical instinct and to be deprived of the only real methods of affording relief to our patients. It is hard enough now to implant this knowledge in the mind of modern students. Their minds are so full of imparted ideas about toxins, microbes, opsonic indices, neurons, and extra-pharmacopœial remedies that there is no room to hold precious knowledge of approved clinical methods and of the virtues of pharmacopœial drugs, and with all this modern development we are fast losing the old-fashioned *art* of medicine and have too little teaching of it in the schools. The action of mercury is not merely a purgative one but it is the best agent for lowering the resistance so commonly existing in these cases in the arterioles and capillaries and thereby relieving the labour of the cardiac walls which is exhausting them. The sources of this obstruction probably lie in the liver or alimentary canal and are cleared away by mercurial influence. Calomel, blue pill, or grey powder (with colocynth and henbane) in doses of from two to five grains should be given at once overnight, followed by a saline aperient in the morning, and repeated for one or two nights, subsequently being taken twice or thrice a week according to the effect produced. You notice that I make no mention so far of digitalis or other tonic for the labouring heart. These are not the primary needs. Relief will be already largely afforded in all directions by the treatment and we may then begin with Baillie's well-known combination of blue pill, squills, and digitalis. By day we may give tincture of digitalis with nux vomica, ammonia, and compound spirit of ether in mixture.

The dietary is important. It should be rather dry if it can be borne. Small feeds every three or four hours with solid or semi-solid food are best. Much fluid with the meal is objectionable, oppressing the stomach and the heart. Between meals the patient may take coffee, if possible, and fresh lemonade containing bi-tartrate of potassium one drachm to the pint. This is especially useful in removing any dropsy. If solid food is loathed we may use beef essence or jelly, or fish, pounded meats, scraped ham or chicken, or milky pudding in small quantities. Alcohol is commonly necessary, old brandy being the best form in which to give it. It is seldom necessary to exceed two or four ounces in the 24 hours. Two ounces of cold or hot water or of some alkaline water may be given at intervals if there is much thirst and a larger quantity of hot water early in the morning is useful to wash out the alimentary canal and to promote a more free diuresis which should be looked for. When the heart is relieved we generally find a more free urinary flow to occur. Later we may employ iron with strychnine or phosphoric acid with nux vomica as appropriate tonics. Ascites, if urgent, may demand tapping, and extreme œdema of the legs, if it does not yield to the remedies just mentioned, must be dealt with by Southey's trocar, careful aseptic precautions being always observed. It may take several hours to relieve the abdomen by this method but it is the safest one to adopt. There is often difficulty in securing adequate rest and sleep at night. Recumbency is seldom possible and if propping up by pillows is not adequate to secure easy respiration the patient is better allowed to sit in a properly adapted chair with support for the arms and a rest arranged for the head to lean somewhat forward. A full dose of compound spirit of ether, with 10 or 15 minims of a solution of morphine hydrochloride, may prove very soothing in the worst forms of restlessness and insomnia with dyspnœa.

Under the influence of these measures it is often remarkable how much improvement may be wrought in these distressing conditions. Yet the patient is always in danger of relapses unless he is extremely prudent in all particulars. In hospital patients we see the worst symptoms in such cases. They secure marked relief, but a return to work or exposure to unwholesome environment and the varieties of the *res angusta* of the poor soon induce a recurrence of the original symptoms and they return to die. For the better placed in society we may hope for a happier outcome with continued skilled supervision of their daily lives. But in them a time arrives when the measures we have enjoined fail to bring relief—the myocardium is worn out, recuperation is at an end, and a fatal issue is inevitable.

The moral of cardiac dilatation lies far back in the history of these cases. Prevention is better than cure. By adequate treatment of the disease which is largely productive of this state—rheumatic fever—and by the adoption of habits which avert premature disease in the valvular structures of the heart and the arterial tunics generally we can alone stave off the ultimate outcome of the progressive failure and inadequacy of function in the vascular system which lead up to the condition we have been considering to-day. Strain, rheumatic fever, syphilis, intemperance in alcoholic drinks, over-eating, and over-indulgence in anything are the main factors, and most of them may be avoided if men and women will but live in what the late Sir Andrew Clark termed "physiological righteousness."

THE CAUSES OF COLITIS, WITH SPECIAL REFERENCE TO ITS SURGICAL TREATMENT.[1]

WITH AN ACCOUNT OF 36 CASES.

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A great deal of attention has been paid within recent years to the subject of colitis, more especially, perhaps, on the continent, and in 1905 Dr. W. Hale White brought the subject prominently before the profession in this country by the publication of his study of 60 cases. Although colitis is generally looked upon as belonging to the province of the physician rather than that of the surgeon, many cases of colitis come under the care of the surgeon.

Colitis has been described under many different names by different authors. Such names as colica mucosa, tubular diarrhœa, membranous colitis, and muco-membranous entero-colitis are only a few of the names which have been used to describe what is without doubt the same condition. My cases do not differ in symptomatology in any important particular from those recorded by other writers under one or other of these different names. The essential symptom in all cases is the presence of excess of mucus in the stools in the form of casts (complete or broken up), shreds, or large glairy masses. In addition bleeding, intestinal sand, diarrhœa, and acute attacks of abdominal pain are common accompanying symptoms.

From the study of my own cases I have been driven to the conclusion that colica mucosa, by whatever name it is called, has no claim to be described as a disease any more than has diarrhœa or hæmatemesis, but that it is a symptom or condition which may result from a number of different diseases of the colon of widely different characters. This is not, I think, a new hypothesis, as although the point has not been specially emphasised before it is the logical conclusion to be drawn from such collections of cases as those of Dr. Hale White and some of the German writers on the subject. I shall attempt to show that in the great majority of cases a lesion or lesions can be demonstrated which it is only reasonable to suppose is the cause of the condition.

Until a few years ago our only means of knowing the condition of the colon in cases of colitis was by a study of the symptoms and an examination of the abdomen and of the discharges, aided sometimes by what was seen of the outside of the bowel when an operation was performed or of its interior when the patient had died from some other cause when suffering from colitis. Within the last four or five years, however, the technique of examining the lower bowel by means of instruments has so much improved that we have been enabled to examine accurately the interior of the lower bowel in all those cases where symptoms of colitis were present, and in this way much has been learned as to the causes of colitis which was hitherto unknown.

The most important advance in our knowledge of these cases has been due to the invention of the electric sigmoidoscope. This instrument enables us to see the condition of the mucosa in the rectum and sigmoid flexure and to compare the condition found in health with that found when symptoms of colitis are present. It has rendered untenable the theory of Professor Nothnagel that colitis is a neurosis unaccompanied by local lesions of the bowel, for in quite a large proportion of the cases definite local lesions can be found to explain the symptoms.

A point of no little importance which a systematic sigmoidoscopic examination of the bowel in cases of colitis has brought out is that the causes for the condition are in many cases confined to the lower part of the sigmoid flexure and rectum. This fact was pointed out by Tuttle and Kelly and I have been able repeatedly to verify the truth of their observations. It is, after all, not surprising that this should be so as the portion of the large intestine which is most subjected to abnormal conditions is the sigmoid flexure and rectum; it is here that stagnation and pressure occur in constipation and there can be no doubt that constipation is by far the commonest antecedent of colitis; it is here that any irritant material, be it solid or liquid, will collect and tend to stagnate if present in the large bowel; and it is here that the greatest amount of traumatism from the passage of hardened fæcal masses will be felt. In fact, those portions of the large bowel which are most liable to injurious influences are the two dependent ends, the cæcum and the sigmoid flexure, and it is here that disease when it attacks the large intestine is most frequently found. We should therefore expect that the chief lesion would be situated either in the cæcum or in the sigmoid flexure and, as I shall attempt to show, this is the case.

Symptoms.—Diarrhœa was a prominent feature in a majority of the cases and in some it was most severe. In Cases 16, 20, and 23 there were at one time as many as from 20 to 25 stools per diem. The diarrhœa was usually the symptom which first caused the patient to seek medical advice. In almost all the cases there was an antecedent history of constipation quite irrespectively of whether an inflammatory lesion or a new growth was found at the examination.

Bleeding occurred in 22 out of the 36 cases. In most of the cases in which there was bleeding this could easily be accounted for by the fact that definite ulceration was present in the bowel. In some, however, no definite cause for the bleeding was discovered. In two of the cases of new growth, Cases 18 and 19, there was no bleeding at all. This shows, I think, that bleeding cannot be considered characteristic of new growth.

Mucus was present in the stools in all the cases in sufficient quantities to draw the patient's attention to it. In some cases very large quantities of mucus were passed so that the stools consisted sometimes of little else. The mucus was in some cases thin and almost fluid, in others thick and gelatinous or in shreds and strings. Large mucous casts were present in the stools in eight of the cases, and I would especially draw attention to the fact that casts were seen in two of the cases, Cases 3 and 21, which were due to malignant disease of the bowel. These two cases are, I think, worth recording in detail.

Case 3 was that of a woman who for five years had suffered from acute attacks of pain in the abdomen followed by the passing of large mucous casts per *anum*. There had been some bleeding at times during the last 12 months. On examining her I found that she had a large growth in the sigmoid flexure. The growth was quite inoperable and she died a few months after I saw her.

Case 21 was that of a man who had only had symptoms of bowel trouble for six months. On several occasions he had passed mucous casts several inches in length. On examining him I found a large malignant growth in the sigmoid flexure and a mass of enlarged glands in the mesorectum. No operation was possible in his case.

Loss of weight was quite as common in the non-malignant as in the malignant cases. It was most marked in those cases associated with severe diarrhœa.

Intestinal sand was seen in the stools in two cases (Cases 2 and 20). In both it was a fine yellowish-red sand when passed but it became black if left for some days. The sand was analysed in both cases and was found to consist of carbonates and phosphate of calcium and ammonium but no cholesterin. It is an interesting fact that in Case 2 the patient also occasionally passed uric acid gravel in the urine. In both cases very severe attacks of abdominal colic were associated with the appearance of the sand.

The interesting condition of enterospasm was present in one of my cases (Case 20). Enterospasm is a localised contraction of the bowel, often resulting in a temporary intussusception. It most usually occurs in the descending colon or sigmoid flexure and is accompanied by extreme pain localised to that portion of the abdomen in which the contracted portion of bowel lies. The spasm may involve a large length of bowel according to some authorities, but in those cases in which I have met with it only an inch or two of bowel has been contracted. In my patient there were attacks of extreme abdominal pain and a hard tumour about two inches in length could be felt in the sigmoid flexure. I examined the patient very carefully, as I suspected that her colitis might arise from a growth in the sigmoid flexure. She had constant diarrhœa with stools consisting of blood and mucus. The tumour might have easily been mistaken for a growth, but I found that it always disappeared when the pain ceased and was always present when a fresh attack of pain occurred. The contracted portion of bowel always occupied the same position and I came to the conclusion that the spasm resulted from an ulcer in that portion of the bowel, as there was tenderness over that spot when the contraction was not present. The patient recovered as the result of a careful dieting and irrigation.

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[1] A paper read before the Royal Medical and Chirurgical Society on June 11th.

My colleague at St. Mark's Hospital, Mr. F. Swinford Edwards, had a most interesting case of the same sort. He opened the abdomen to explore for a tumour in the sigmoid flexure and on drawing out the bowel found a contracted band about two inches in length resembling a local intussusception. While he was watching it disappeared and again reappeared. Enterospasm appears to result from some local irritation within the bowel. The irritation may result from an ulcer within the bowel or from a hardened fæcal mass or concretion.

The examination of the patient.—A patient suffering from colitis cannot, as a rule, be properly examined in the consulting-room or out-patient department of a hospital. The sigmoid flexure is normally full of fæcal material and special means are necessary to empty it. The patient should be confined to bed and the rectum and sigmoid flexure thoroughly emptied by aperients and enemata administered by a skilled nurse. The examination with the sigmoidoscope is not painful and, as a rule, causes but little discomfort, so that an anæsthetic is not required in most cases. The greater part of the sigmoid flexure can be readily examined and the condition of the mucosa observed. The sigmoidoscope, like the cystoscope or laryngoscope, requires practice before it can be properly used, but in skilled hands it is perfectly safe and the view of the parts obtained with it is all that could be desired. The abdomen should, of course, be examined, especially the appendix area and the left flank. The stools should also be examined and in some cases a microscopical or bacteriological examination made of the abnormal constituents.

Cases of colitis in which lesions are present within the bowel.—I shall attempt to show that some lesion either within the bowel or external to it, but involving it, can be demonstrated in the majority of cases of colitis and that the recent improved methods of examining the bowel have proved that what is generally called colitis is a symptom of some local lesion of the bowel. I do not wish to assert that whenever we find an abnormal condition of the mucosa we are necessarily at once to look upon it as the cause of the colitis. I do not think that the gravity of the lesion in some of the cases is sufficient to justify this view, and it may be that the appearances are but secondary to some more serious lesion at a higher level. That this may occur is evidenced by the following case which I saw in consultation with Mr. A. W. Mayo Robson. The patient was an elderly gentleman who for many months had been passing large quantities of blood and mucus in his stools. An examination with the sigmoidoscope was made and revealed the presence of numerous small follicular ulcers scattered about on the mucous membrane of the rectum and sigmoid flexure. There seemed to be sufficient ulceration present to account for his symptoms and he was treated by irrigation and injections upon this assumption. After a few weeks, however, although the ulcers had healed, he was still passing blood and mucus in considerable quantities. He was again examined with the sigmoidoscope and on this occasion a cancerous ulcer was detected very high up in the sigmoid flexure. This was subsequently excised by Mr. Mayo Robson. This case shows the importance of a thorough and careful examination and that the presence of definite ulceration in the bowel does not exclude the possibility of a more serious lesion at a higher level.

It will be observed by reference to the table of cases that in the majority of cases of colitis the lesions discovered on examination were of a chronic inflammatory nature. This is opposed to the views expressed by Nothnagel who believed colitis to be in most cases a neurosis.

In my series of cases a definite inflammatory condition of the mucosa was found in 24 out of the total of 36 cases, or in 66 per cent. The appearance of the inflammatory condition found varied very considerably in the different cases and varied sometimes in the same case at different times. In all the cases the inflammation was of a chronic character and appeared to involve only the mucous membrane or submucous cellular tissue.

The most usual appearance was for the mucous membrane to be injected and bright red; the normal mucous membrane is of a pale pink colour. The surface was dull, having lost its normal glistening appearance, and often granular. This granular condition closely resembles that seen in granular pharyngitis. In many of the cases the mucous membrane looked as if its surface had been rubbed off with sand paper. It bled readily if touched with the instrument and bleeding spots could often be seen apart from this. Scattered about on the mucous membrane there were irregular patches of yellowish white adherent mucus which often gave a very characteristic appearance to the bowel. Occasionally a very extensive area of bowel was affected, and in some cases the whole of the visible portion of the sigmoid flexure was involved. The inflammation was always most marked at the flexure and on the valves of Houston. In some of the cases, more especially when an examination was made during acute attacks, the condition resembled an extensive superficial ulceration of the mucosa.

In addition to the granular condition of the mucous membrane there was definite ulceration in seven of the cases. The ulcers were irregular in outline, quite shallow, and with a granular base. These ulcers were often very numerous and sometimes extended throughout the entire sigmoid flexure and rectum. To turn to the cases in which ulceration is found. The degree of ulceration which may be found in a case with symptoms of colitis varies very considerably. Thus in some cases I have seen a few shallow ulcers at irregular intervals, situated chiefly in the rectum or in the lower portion only of the sigmoid flexure. In other cases these ulcers were so numerous as to cover most of the surface of the rectum and sigmoid flexure, the normal mucosa standing out in contrast to the background of ulceration. Even in such cases, however, the ulceration may be so shallow as to involve the superficial layers only of the mucosa and it is important to distinguish between this variety and that in which the ulcers are numerous and deep. The latter is a much more serious condition; the ridges of healthy mucous membrane between the ulcerated areas here appear like polypi, so prominently do they appear to stand up from the surrounding ulcerated areas.

As a rule, ulceration is found in those cases of colitis where severe symptoms exist, but this is not always the case and I have seen well-marked ulceration in cases where the symptoms were mild and no ulceration in cases where the symptoms would lead one to suppose that severe ulceration was present. The ulcers as a rule in the more chronic cases are found at those points where local irritation or traumatism is likely to occur—thus, at the recto-sigmoidal junction, in the bottom of the sigmoid pouches, and on the surfaces of the rectal valves. These shallow ulcers must be distinguished from the ulceration found in cases of acute ulcerative colitis or dysentery. In the latter conditions the whole thickness of the mucosa is destroyed and if healing occurs there is of necessity considerable scarring.

In one case I had the opportunity of examining a patient who had recovered from a severe attack of dysentery and the white stellate-looking scars left by the healed ulcers could be seen all over the rectum and sigmoid flexure. In the shallow form of ulceration, however, which I have seen associated with chronic colitis the ulcers readily heal with suitable local treatment and no scarring results. The symptoms during an acute attack may, however, be very severe, and it is important to distinguish this form of ulceration from the deeper and more serious ulceration, as the prognosis, while good in the former, is not so favourable in the latter.

CASE 36 is of particular interest. The patient was a man, aged 41 years, under the care of Dr. G. Baynton Forge. He had always been a healthy man and, with the exception of one or two slight attacks of diarrhœa, had had no serious illness until recently. In July, 1906, after a period of overwork he was suddenly taken ill with severe diarrhœa. This got worse and he began to pass blood and mucus in considerable quantities. In spite of rest and treatment there was no improvement in his condition. He was for some weeks under treatment in Maidstone Hospital but without much benefit. When I first saw him in February of this year he was passing eight or nine stools a day and there was much mucus and blood. He had lost two stones in weight since the onset of his illness. He looked thin and had a pale and sallow complexion. I took him into St. Mark's Hospital and examined him with the sigmoidoscope under an anæsthetic. The whole of the mucous membrane of the rectum and of the lower part of the sigmoid flexure was rough and very coarsely granular, suggesting the appearance seen in granular pharyngitis. There was extensive ulceration of the mucosa, TABLE OF CASES OF COLITIS.

No.	Sex.	Years of age.	Symptoms.	Duration.	Condition found.	Remarks.
1	M.	50	Attacks of pain; mucus; bleeding.	3 years.	No cause found.	—
2	F.	46	Severe attacks of pain; mucous casts; intestinal sand.	9 months.	"	Patient much better but is subject to relapses.
3	F.	51	Severe pain during attacks; mucous casts passed after attacks; some bleeding during last 12 months.	5 years.	Cancer in sigmoid flexure.	Inoperable; the patient died.
4	F.	46	Mucus after attacks of pain; diarrhœa alternating with constipation.	Some years.	*Nothing found.*	—
5	F.	22	Continuous diarrhœa; mucus.	10 years.	Mucous membrane red and congested; upper limits not defined.	—
6	M.	40	Excessive mucus in stools; pruritus.	6 years.	Hypertrophic catarrh with œdema of submucous tissue; upper limits not defined.	—
7	M.	42	Blood and mucus.	3 months.	Hypertrophic catarrh; upper limits not seen.	
8	M.	78	Blood and mucus with severe diarrhœa.	3 weeks.	Nothing abnormal found.	Got better but had a relapse *five months* later.
9	M.	26	Bleeding and diarrhœa; much pain at times; mucus in small quantities.	3 years.	Hypertrophic catarrh; œdema of mucous membrane; ulceration.	Has been operated upon for piles three times in two years.
10	F.	35	Large casts passed frequently; mucus constantly present in stools.	2 years.	Adhesions binding down sigmoid flexure; two and a half years ago a large abscess at the back of the pelvis was opened from the abdomen and drained; previously to this a normal appendix was removed.	—
11	F.	45	Passes mucous casts and blood.	4 years.	Granular chronically inflamed condition of mucous membrane, most marked in rectum but the upper limits not defined.	—
12	M.	23	Bleeding, diarrhœa, and pain of a spasmodic nature; mucus passed in large quantities.	6 years.	Mucous membrane granular and bleeds if touched; several small polypi seen high up.	—
13	M.	35	Diarrhœa and passing mucus in large quantities.	3 years.	*Nil.*	—
14	F.	17	Passing mucus and blood.	3 years.	Well-marked hypertrophic catarrh confined to rectum and lower part of sigmoid flexure.	—
15	M.	32	Constant diarrhœa and passing large quantities of mucus.	8 months.	Mucous membrane red, swollen, and granular; numerous shallow ulcers; mucous membrane normal above middle of sigmoid flexure.	Relapse five months later.
16	F.	32	Diarrhœa and passing mucus in large quantities; bleeding occasionally.	3 years.	Congested and granular condition of mucous membrane; upper limits not defined.	Rapid improvement; relapse seven months later.
17	F.	29	Pain, diarrhœa, and mucus.	1 year.	Much swelling and congestion of mucous membrane; narrowing of bowel from adhesions seen high up; laparotomy revealed adhesions of sigmoid flexure to appendix.	The patient had previously suffered from proctitis.
18	F.	42	Diarrhœa; mucus in considerable quantities; no bleeding.	3 months.	Cancer in sigmoid flexure.	Inoperable.
19	M.	63	Diarrhœa; no bleeding; mucus.	1½ years.	Papilloma high up in rectum; malignant at base.	Excision; recovery.
20	F.	39	Diarrhœa; much mucus; casts at times; bleeding; enterospasm; intestinal sand.	10 years.	Catarrhal inflammatory condition of rectum and sigmoid flexure; upper limits not defined.	—
21	M.	52	Much mucus; mucous casts; bleeding on one or two occasions slightly.	6 months.	Cancer in sigmoid flexure.	Inoperable.
22	M.	65	Diarrhœa; much mucus; some bleeding.	6 months.	Some congestion of mucous membrane.	—
23	M.	30	Diarrhœa; bleeding; much mucus.	3 years.	Extensive shallow ulceration, most marked in lower loop of sigmoid flexure and in rectum; upper limit not seen.	—
24	M.	28	Diarrhœa; much mucus; bleeding.	3 years.	Shallow ulcers in rectum and sigmoid flexure; granular mucous membrane; upper limits not seen.	—
25	M.	45	Diarrhœa and mucus in large quantities; blood occasionally.	Several years.	Catarrhal inflammation of rectum and sigmoid flexure. Some adhesions binding down the latter.	Local condition hardly accounts for symptoms.
26	M.	40	Diarrhœa and mucus.	1½ years.	Granular condition of mucous membrane and catarrhal inflammation; upper limits not defined.	—
27	F.	39	Mucous casts.	3 years.	Retroflexed uterus pressing upon the rectum and hypertrophic catarrh.	Ventrofixation of uterus performed.
28	F.	37	Mucous casts; bleeding.	15 years.	Catarrhal inflammation of rectum and sigmoid flexure.	—
29	M.	58	Diarrhœa and mucus.	8 months.	Nothing found.	—
30	M.	41	Diarrhœa; mucus.	2 years.	Slight catarrhal inflammation in rectum and sigmoid flexure.	Condition found hardly accounts for symptoms.
31	M.	40	Diarrhœa; mucous casts; bleeding.	3½ years.	Chronic inflammation with shallow ulcers in rectum and last inch or two of sigmoid flexure.	—
32	M.	53	Diarrhœa; mucus; bleeding.	6 months.	Cancer in sigmoid flexure.	Operation refused.
33	M.	50	Diarrhœa; mucus; bleeding.	9 months.	Catarrhal inflammation of rectum and sigmoid flexure and piles.	—
34	M.	65	Diarrhœa; mucus; bleeding.	1 year.	Ulceration of sigmoid flexure and cancer in middle of sigmoid flexure.	Growth excised.
35	M.	44	Diarrhœa; blood and mucus.	2 years.	Small cancerous growth in sigmoid flexure.	Growth excised and end-to-end anastomosis performed; recovery.
36	M.	41	Diarrhœa; blood and mucus.	7 months.	Ulceration of rectum and sigmoid flexure; mucous membrane very granular; fibrous band causing kink in the flexure at about its centre.	Exploratory laparotomy revealed a band fixing the middle of the sigmoid flexure; recovery.

the ulcers being irregular in outline and shallow, involving only the superficial layers of the mucosa. Above the centre of the sigmoid flexure the ulcers were much less numerous. On digital examination some enlarged glands could be felt in the meso-rectum and abdominal palpation revealed a distinct thickening in the left iliac fossa. He was treated by large oil injections into the colon and irrigation with potassium permanganate for a fortnight. Under this treatment the ulcers healed and all the symptoms cleared up. But as there was still a distinct thickening in the left iliac fossa and as I did not feel certain that there might not be a growth higher up in the sigmoid flexure than we were able to see with the sigmoidoscope I thought it advisable to perform exploratory laparotomy. On opening the abdomen I found there was no growth but the walls of the sigmoid flexure were very much thickened, so much so that the bowel in places felt like a thick indiarubber tube. There were also numerous enlarged glands in the meso-sigmoid. In the centre of the sigmoid flexure there was a thick fibrous band about three-quarters of an inch broad binding down the sigmoid flexure into the left iliac fossa and causing a kink in the bowel. The transverse colon was normal, as were also the cæcum and appendix. All the other organs were normal. I divided the fibrous band and closed the abdomen. After he had got over the operation the previous treatment was continued with the addition that he was given von Noorden's diet, and he was discharged apparently quite well at the beginning of April. With the sigmoidoscope it could be seen that all the ulcers had healed and although the surface of the mucosa was still rough and granular it was decidedly better than at the first examination.

In four cases there was a chronic hypertrophic catarrh associated with œdema of the submucous tissue. On examining such a case with the sigmoidoscope the mucosa is seen to be much paler than normal and to be thrown into numerous folds or concentric rings. The mucous membrane bulges forward into the bowel lumen, giving the appearance of a partial intussusception at the point examined. The mucous membrane is thickened and œdematous, though its surface retains its normal shiny appearance. The sigmoidoscopic appearances are very characteristic and cannot be mistaken. This condition was associated in all my cases with excessive secretion of gelatinous mucus.

Severe pruritus was present in two of the cases and the patient in Case 6 consulted me on this account. This patient got better after regular irrigation of the bowel with an alkaline lotion and the use of astringent injection of krameria, and his pruritus, which had existed for many years, was cured. I have seen this hypertrophic catarrhal condition of the mucosa in two cases of pruritus in which the patient did not give a history of colitis.

Cancer as a cause of colitis.—In seven (Cases 3, 18, 19, 21, 32, 34, and 35) out of my series of 36 cases the colitis was due to a tumour within the bowel. In all of these cases there was considerable doubt about the diagnosis previously to the discovery of the tumour and several of the patients had previously been under treatment for colitis. In looking through my cases of cancer of the rectum I find there are several in which the symptoms were those of colitis rather than cancer, but I have not included them as there was at no time any doubt about the diagnosis as a digital examination revealed the true state of affairs.

It is impossible from the symptoms alone to distinguish those cases of colitis which are due to cancer from the other forms. The presence of blood in the stools is of no value. In Cases 18 and 19 there was no blood and only a very small amount of blood on two occasions in Case 21. Definite mucous casts may be passed in cases of cancer, as is shown by Cases 3 and 21. In both these cases typical mucous casts had been passed on several occasions. The age of the patient does not help us much, as in Case 18 the patient was only 42 years of age, and only two of the others were over 55 years, while the average age for all the cases is 43 years. The time during which the symptoms have existed will not exclude cancer, as in Case 19 symptoms had existed for one and a half years and in Case 3 for five years.

Case 3 is a remarkable one. The patient had had symptoms of a severe colitis for five years; she had passed mucous casts of the bowel after acute attacks of abdominal pain. She had laparotomy performed twice. What was found on the first occasion I do not know but at the second operation an adherent ovarian cyst was removed. When I saw her she had a malignant growth at the upper end of the sigmoid flexure. A short-circuiting operation was subsequently performed by another surgeon but she died from intestinal obstruction shortly afterwards.

In Case 18 a large growth in the sigmoid flexure was discovered on examining the patient with the sigmoidoscope. I subsequently performed colotomy after finding that the growth could not be removed. In Case 19 I removed the growth, which was a large papilloma becoming malignant at its base, and the patient has remained well since, a period of over two years. In Case 21 the growth was inoperable. In Case 32 the growth was seen high up in the sigmoid flexure through the sigmoidoscope. The patient unfortunately refused operation. In Case 34 the growth was situated 22 centimetres from the anus. It was seen through the sigmoidoscope and could not have been diagnosed otherwise. This patient had numerous small ulcers scattered over the mucous membrane of the rectum and sigmoid flexure below the growth. Mr. Mayo Robson subsequently excised the growth from the abdomen and anastomosed the ends of the bowel.

Case 35 is of particular interest. The patient was an exceedingly neurotic man, aged 46 years, who was sent to me by Dr. G. Baynton Forge. For nearly two years he had been under treatment by different practitioners for ulcerative colitis and during that time he had been passing blood and mucus in his stools almost continuously. There were no constipation and no difficulty in keeping the bowels open at any time. He had been putting on weight slowly for about two months before I saw him. On examining him with the sigmoidoscope I found a small malignant growth, of about the size of a shilling, growing from the anterior wall of the sigmoid flexure about six inches above the upper end of the rectum. The mucous membrane above the growth was inflamed and resembled the condition seen in non-malignant cases of colitis. I excised the growth and a V-shaped portion of the adjacent mesentery from the abdomen and joined the ends of the bowel end to end by simple suture; the abdomen was closed without drainage. He made a good recovery and returned home in good health about one month after operation. A microscopical examination of the growth showed that it was an ordinary medullary carcinoma.

Among the rarer causes of chronic colitis which have been recorded mention must be made of actinomycosis of the colon, two cases of which are recorded by Beck. Another rare local condition is tuberculosis, of which seven cases are recorded by Beck.

Multiple adenomata of the large intestine.—This is a very curious condition and only a comparatively small number of cases have been recorded. These adenomata are present in great numbers; in some cases the entire mucosa of the large bowel is covered over with them. In some of the cases only a portion of the bowel is affected, the commonest situations being the sigmoid flexure and rectum. The symptoms are those of a severe colitis. There is often much blood in the stools, but in some of the cases there has been none. One of the most remarkable cases of this disease was that reported by Lilienthal; the whole colon was affected and the patient was ultimately cured by excision of the entire large intestine. A case was reported recently by Dr. Mabyn Read, and the specimen of a case was shown at the Leicester meeting of the British Medical Association in 1905 by Mr. E. Stanmore Bishop. Dr. Carey P. Coombs has also recently reported a case.

Causes of colitis outside the bowel.—Colitis may result from adhesions due to an acute pericolic inflammation. Cases of acute pericolitis are not uncommon and several well-authenticated cases have been described, notably by Dr. H. D. Rolleston. In one of my cases the patient had an acute attack of abdominal inflammation and a large abscess in connexion with the sigmoid flexure and rectum was found and opened through an abdominal incision. Shortly afterwards she commenced to suffer from well-marked symptoms of mucous colitis, which increased up to the time I saw her three years after the operation. Everything pointed to the adhesions around the sigmoid flexure and binding it down into the pelvis as the cause of her symptoms.

Uterine displacement may be a cause of colitis by interfering with the action of the sigmoid flexure and the evacuation of its contents into the rectum. A retroflexed uterus acts like a ball valve in blocking up the posterior pelvic outlet and causes a very considerable degree of obstruction in some cases. In Case 27, in which laparotomy was performed for colitis, the retroflexed uterus could be seen to block the posterior pelvic outlet almost completely and the sigmoid flexure above the point of constriction by the uterus was greatly distended and hypertrophied. Ventrofixation of the uterus resulted in considerable improvement in this patient's condition.

Beck out of 500 cases of chronic colitis found chronic inflammatory lesions in the neighbourhood of the colon in 394.

Colitis and appendicitis.—It is difficult to say exactly what is the association between appendicitis and colitis. The most usually accepted view is that colitis may result from a chronically inflamed appendix. Dr. H. A. Caley has expressed the view that appendicitis often results from colitis. The probability would seem to be that both appendicitis and colitis result from the same causes—namely, incorrect dieting and constipation. That appendicitis can be the cause of colitis is, I think, unquestionable. The evidence in favour of this view is very strong. A certain degree of colitis is usually present in all cases of acute appendicitis, though no definite symptoms of the conditions may show themselves.

In exactly what way appendicitis causes colitis we do not know, but it seems probable that it may produce it in several ways. 1. Appendicitis is generally accompanied by inflammation of the ascending colon and cæcum, and in some cases this inflammation of the colic mucosa may spread into the transverse colon and even reach the sigmoid flexure. As Mr. C. B. Lockwood has pointed out, it is not uncommon during the operation for appendicitis to find that the inflammation has spread into the ascending colon. 2. Appendicitis may also cause colitis by the formation of adhesions between the appendix or cæcum and the sigmoid flexure. These adhesions by interfering with the lumen of the gut either through direct constriction or by causing abnormal flexures and angles may result in a local inflammatory process being set up and the symptoms of colitis subsequently develop. The first result of such adhesions is usually constipation to be followed in a shorter or longer time by diarrhœa and the passage of mucus. This had occurred in Case 17. On opening the abdomen I found the appendix adherent at its tip to the sigmoid flexure and several adhesions binding down the sigmoid flexure and preventing it from rising out of the pelvis. Considerable improvement followed removal of the appendix and separation of the adhesions. 3. It would seem probable that a chronically inflamed appendix may cause symptoms of colitis by the frequent discharge of septic material into the bowel. It has become customary to describe the colon and rectum as septic channels, though there is no justification for this. As a matter of fact, septic organisms are not at all usually numerous in the large intestine and the pathogenic flora of the mouth is far more numerous than that of the rectum and colon. Even the skin is a more common habitat for septic organisms than the colon. It is not surprising therefore that a chronically inflamed appendix which is continually discharging septic organisms into the bowel may be the cause of colitis, just as we know that carious teeth and septic conditions of the mouth can cause gastritis.

We have very positive evidence that removal of an inflamed appendix will in many cases lead to a complete cure of colitis. In Mr. Lockwood's paper already referred to he records three such cases where the symptoms of colitis cleared up entirely after the removal of an inflamed appendix. Dr. Hale White, in his valuable paper on membranous colitis, records four cases in which the appendix was removed for symptoms of colitis. In only one of these, however, did a cure of the colitis follow the operation. It is noteworthy, however, that the successful case is also the only one of which it is recorded that the appendix was found to be diseased. Beck found a chronically inflamed appendix to be the cause of colitis in a considerable number of cases of chronic colitis and believes it to be a common cause of colitis. Tuttle records five cases of chronic colitis cured by the removal of an inflamed and adherent appendix. Olmsted of Ontario records a case of severe mucous colitis in which rapid improvement followed the removal of a congested appendix, and Amatt of Ontario records two similar cases.

Adhesions of the bowel as a cause of colitis.—There is every reason to believe that adhesions binding down the large bowel and interfering with its normal movements are an important factor in the causation of colitis. In a great many cases of severe and intractable colitis for which an exploratory laparotomy has been performed adhesions binding down the sigmoid flexure, and more rarely the cæcum or splenic flexure, have been found, and their division has been followed by a cure of the condition, though not infrequently the adhesions have re-formed at a later date with a recurrence of the old symptoms. These adhesions have been supposed to arise from long-continued constipation, but it is difficult to understand how adhesions can arise from constipation alone and it seems much more probable that the presence within the bowel of hard retained fæcal masses has set up a local inflammation or definite ulceration and that the adhesions to neighbouring parts have resulted from the local peritonitis thus caused. This seems all the more likely, as adhesions are usually found in those portions of the bowel, such as the sigmoid flexure, ascending colon, and cæcum, where retention of fæcal material most easily occurs. I believe local simple ulceration of the mucosa of the large bowel is much commoner than is generally supposed. I have often observed simple ulcers in the sigmoid flexure with the sigmoidoscope in cases of chronic constipation, though no symptoms of ulceration were present.

The adhesions interfere with the normal peristaltic movements of the colon and a chronic catarrhal inflammation of the mucosa is set up at the points where adhesions have formed.

A floating kidney has been supposed to cause colitis and Tuttle records two cases apparently cured by fixation of an exceptionally mobile kidney. In those cases of colitis associated with a moveable kidney which have come under my observation I have seen no reason to suppose that the condition of the kidney was in any way the cause of the colitis.

It is interesting to observe that symptoms of colitis may occur in cases of abdominal aneurysm. In such cases the colitis apparently results from the pressure of the aneurysm upon some contiguous portion of the large bowel. Tuttle records six cases of abdominal aneurysm in which there was well-marked and intractable mucous colitis.

In six of my cases no local cause for the colitis could be discovered and in two cases (Cases 25 and 30) the local lesion did not seem sufficient to account for the symptoms. In Case 29 in which no local lesion was found the subsequent history of the patient pointed to the presence of a malignant growth high up in the colon, but I have since heard that he is still alive, though not any better, one and a half years after he was examined. In Case 25 it seemed probable that the chief lesion was higher up in the sigmoid flexure than we were able to see. There are thus only six cases out of 36 in which there was no sign of any local lesion. And when we consider the very large part of the colon which cannot be examined it seems at least probable that there was a definite lesion in that part which could not be examined.

Treatment.—The most important factor in the treatment of colitis is undoubtedly to ascertain first of all the real cause of the condition. And the reason the treatment of colitis has often in the past been unsatisfactory is undoubtedly to be assigned to inaccurate diagnosis and treating as a disease what is only a symptom. In the inflammatory conditions rest in bed is advisable at the commencement of treatment. This is more particularly of value in enabling the patient to be kept under close observation. Irrigation of the bowel seems to be the best method of treatment if carried out properly and the inflammatory condition, as a rule, quickly subsides. A skilled nurse who understands how to get the irrigating fluid right up into the colon is essential. The irrigation must be done with a douche and not with a syringe. The reservoir should never be raised more than a foot or two feet above the anus and the fluid must be admitted slowly, with the patient in the semi-prone position. If the condition is at all acute it is better not to begin with irritant injections; an alkaline lotion, such as glycerine thymol co. 15 per cent., or sodium bicarbonate one drachm to the pint is very good, or if there is much ulceration hydrogen peroxide. Later argyrol 1 per cent., or potassium permanganate 1 in 2000, is very useful. Large injections of olive oil carefully administered and retained for as long as possible I have found most useful in some of the ulcerated cases. Irrigations are, however, quite useless unless care is taken to see that they reach the affected area, by no means always an easy matter. In some cases where there is local ulceration the ulcers can be painted with nitrate of silver or ichthyol through the sigmoidoscope. Dieting is also very important and the great thing is to get the bowels to act normally. Von Noorden's diet seems the best in most cases.

The most difficult cases to treat would seem to be those in which there is hypertrophic catarrh. They are easily made better but not easily cured. Stimulating injections are of the most value in these cases and treatment must be continued for some time. In the malignant cases operation is, of course, indicated where possible. In those cases where colitis is associated with a thickened and tender appendix, removal of the appendix, so as to get rid of a source of infection, is certainly indicated. In some of the cases of severe ulcerative colitis giving rest to the bowel by establishing a temporary artificial anus may be necessary, but I do not think this will often be the case if the local treatment of the colon by irrigations and applications through the sigmoidoscope is carefully carried out. Before a left inguinal colotomy is performed for colitis a careful examination with the sigmoidoscope should always be made to ascertain whether it is possible to open the bowel above the diseased area. The only advantage of appendicostomy seems to be that it enables the patient readily to perform irrigation of the colon for himself.

In those cases of colitis in which no local cause can be found to account for the symptoms and in which no material improvement in the symptoms has followed a careful and thorough course of medical treatment, I think surgical interference is indicated. Laparotomy should be performed and a thorough examination made of the large intestine; any adhesions which may be found binding down the bowel should be divided; if the sigmoid mesentery is unduly lax, allowing partial volvulus to occur, it should be shortened by stitching. If there is a retroflexed uterus it should be fixed in the normal position and if any thickening or ulceration of the bowel wall can be detected the advisability of resecting that portion of the bowel or of short-circuiting it must be considered.

I do not think that the operation of ileo-sigmoidostomy is advisable except in a few exceptional cases. When very extensive adhesions or ulcerations in the large bowel are discovered, which it does not seem probable can be permanently remedied, this operation should be considered, as it may be the only means of saving the patient from becoming a chronic invalid. It is not an operation, however, to be lightly performed, as the large intestine is a useful and necessary portion of the human body and not, as some people suppose, a useless cesspool, to be cut out or short-circuited without damage to its owner.

I am well aware that it may be said of my cases and observations that owing to the fact that I am a surgeon those cases of colitis in which a local cause is demonstrable tend to preponderate unduly. I admit that this is so, but it may equally well be said that the reverse occurs with those cases coming under the care of the physician. A very large number of cases with symptoms of colitis present themselves for treatment at St. Mark's Hospital and we thus have exceptional opportunities of observing such cases at that institution.

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Cavendish-place, W.

SACRO-COCCYGEAL TERATOID TUMOUR WITH FORMATION OF METASTASES IN THE GROIN.[1]

BY SETON PRINGLE, M.B. DUB., F.R.C.S. IREL.,
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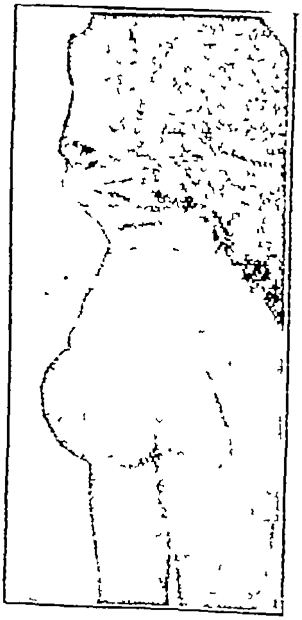
As tumours of the sacro-coccygeal region may be classed among the surgical and pathological curiosities I considered the following case worthy of record, more especially as it presented some unusual features.

The patient, aged 57 years, was admitted to Mercer's Hospital, Dublin, on Sept. 23rd, 1904, having been sent up from the country to have a tumour removed which, as he said, "prevented him sitting down." His history was briefly as follows: 35 years previously he first noticed a small lump of about the size of a nut in the middle line some distance behind the anus. This tumour grew very slowly and remained quite painless until about four years ago, at that time being of the size of an orange, when it assumed more rapid growth, and he felt what he called "rheumatic pains" in it. Since then growth had proceeded in rather a peculiar manner; one part would, he said, grow rapidly, forming a painful nodule with the skin over it reddened, but when the nodule reached the size of a hen's egg growth would cease and the skin become pale again; then another part would take on growth and the process repeat itself. For the last few months the upper extremity had been growing rapidly in this manner. At no period did the tumour break down or ulcerate and it was freely moveable for years but had become more fixed in the last 12 months. Some 33 years ago, or two years after the appearance of the above-mentioned tumour, he noticed a small hard lump in his right groin which had continued to grow slowly and quite painlessly up to the time under notice when it was of about the size of a duck's egg. About 20 years ago he discovered another lump also in the right groin above and outside the earlier one and this was about the same size as its neighbour. For the last year he had noticed increasing difficulty in micturition and defæcation, the stools becoming smaller until they were about as thick as his index finger. He said that latterly he had suffered from "rheumatic pains" in his right hip and down the thigh to the knee but that otherwise he was quite strong, had not lost much weight, and his chief complaints were that he was unable to sit for any length of time and that pressure or cold caused pain in the lump. He knew of no relatives who had suffered from similar tumours, and his own children, the youngest being 20 years old, showed no abnormality.

On examination a large tumour was found over the sacral region, the general character of which can be well seen in the accompanying illustration (Fig. 1.) It measured 15 inches over all from the upper to the lower extremity and 11 inches from side to side, the base extending from the upper border of the sacrum to the anal margin and from slightly outside the left margin of the sacrum to well on to the right gluteal region. Its surface showed irregular lobulations; the skin over most of the mass was mottled blue but over the upper pole it was red and inflamed. There was no induration round the base and the adjacent skin appeared perfectly normal. On palpation the tumour was found to be more or less fixed apparently to the back of the sacrum, but it could be moved to a certain extent from side to side. The skin covering it could not be moved apart from the tumour, but this appeared to be due to its tightly stretched condition. The consistence of the growth was not uniform, most parts being

FIG. 1.



The sacro-coccygeal teratoma before removal.

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[1] A paper read before the Pathological Section of the Royal Academy of Medicine in Ireland on March 15th, 1907.

densely hard, but over several small areas it was diffluent or semi-fluctuant and on one spot a fine crackling rather like that felt in chondromata could be elicited on deep pressure. The upper pole was rather softer than the rest of the mass and pressure here caused pain. In the right groin were two tumours, each of about the size of a large duck's egg, and evidently enlarged lymphatic glands. The skin over them was perfectly normal and freely moveable. These tumours felt very hard and firm with a slightly nodular surface; they were almost painless on pressure and were freely moveable.

On rectal examination the hollow of the sacrum was found to be full of a hard mass of growth which pushed forwards the posterior wall of the gut, so that the lumen was semilunar in outline. This mass extended up as high as the finger could reach; its surface was slightly nodular and pressure caused little pain. A hard mass could also be felt anteriorly around the prostate, and on passing a urethral sound an obstruction was found in the deep urethra through which a No. 6 English sound could just be passed.

From the examination it was evident that the growth was so far advanced that it was out of the question to attempt complete removal, but as the patient was extremely anxious to have something done I removed the glands from his right groin on Sept. 29th as a preliminary measure and for purposes of examination. They both shelled out quite easily and with little hæmorrhage, and the wound healed by first intention.

Description of the glands after removal.—Each gland was of about the size of a duck's egg, hard and firm to the touch, and rather nodular on the surface. Macroscopically the cut surface showed that a definite capsule inclosed the gland which was composed of lobulated masses varying in size from that of a pin's head to that of a nut and of different shades of a brownish-red colour. These nodules were separated from one another by bands of semi-transparent homogeneous material from which exuded a slimy mucus-like substance. Small hæmorrhages could be seen in parts. Microscopically it was seen that the lobulated masses were in reality cysts with connective-tissue walls. In these cysts could be seen three different appearances:—

1. Parts where the cyst was full of cells with oval nuclei, and running through the mass of cells were connective-tissue bands containing blood-vessels; these bands were evidently the cores of intracystic papillary outgrowths. The layer of cells next the core was in places distinctly cubical. The connective tissue in parts showed commencing mucoid change.

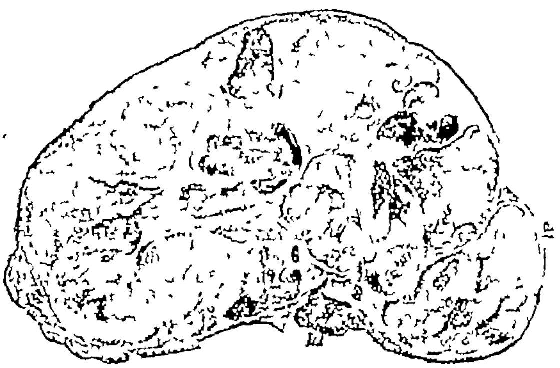
2. Parts where the cells were much less numerous and were arranged two or three rows deep round capillaries but separated from them by a zone of mucoid material. The cells abutting on this mucoid zone were distinctly columnar.

3. Parts where practically the whole tissue had been converted into mucoid. In places the capillaries could still be seen surrounded by a zone of mucoid, the different areas of mucoid being separated by a single layer of flattened spindle-shaped cells.

I take it that these three appearances are merely different stages of a very extensive mucoid change taking place in the connective-tissue stroma of the tumour round the blood-vessels and that this degeneration went on to such a degree that the cells atrophied from pressure and lessened blood-supply, and this reading, I think, explains the slow, almost inappreciable, growth of the glands. From these appearances we concluded that, although the tumour was malignant, it was of very slow growth and degenerated very quickly, so after explaining to the patient that he could not be permanently cured but only made more comfortable, I operated on Oct. 10th. It was found quite easy to remove the growth by cutting through only healthy tissue except at one part where a pedicle of about one and a half inches in diameter led into the pelvis through the coccyx which had been almost completely destroyed. The hæmorrhage was easily controlled by deep catgut sutures passed through muscles and fasciæ, drawing these structures together over the bared sacrum. As much of the intra-pelvic growth as possible was removed through the space left by the pedicle, a gauze drain was inserted, and the wound was closed by a continuous suture. There was considerable tension of the upper part of the wound and here the edges sloughed, but the wound rapidly granulated up. The patient was out of bed in a fortnight and a month later the wound was completely healed except for a small sinus over the position of the pedicle which ran into the pelvis. I then allowed him to return home as he could sit comfortably for an hour or two and expressed himself as very gratified with the result of the operation. Some time after his return to the country I heard that he had had several attacks of retention of urine and subacute obstruction of the bowel which prevented him regaining his strength. His condition gradually grew worse and he died 14 months after the operation. For the last few months he led a catheter life and had recourse to strong purgatives and enemata to empty the rectum.

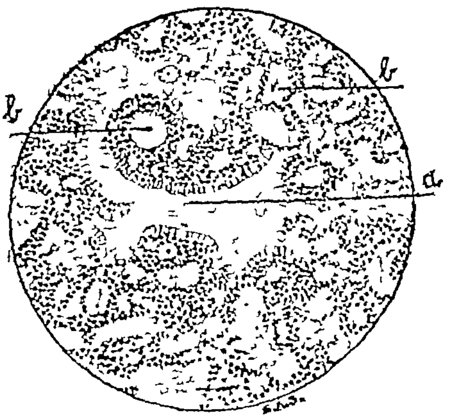
Description of the tumour.—Its weight was 3 pounds 13 ounces. The surface was lobulated as described above; the skin over it was in parts adherent and in other parts it could with little difficulty be peeled off, as could also the piece of gluteal muscle which I removed with the tumour at its base. The consistence was in most places densely hard, but the diffluent areas mentioned could also be made out. On section (see Fig. 2) the cut surface presented for the most part a white semi-transparent homogeneous or fibrillated appearance and from it exuded a great quantity of the same mucoid material as from the glands. This whitish structure was arranged irregularly in bands and masses throughout the tumour, comprising about three-fourths of the entire growth and felt hard and firm. The remainder of the tumour was composed of cysts of various sizes and shapes, as a rule inclosed by a definite fibrillated whitish wall and full of rather soft spongy material of all colours from a yellow to a dark red, almost black, colour, but in most places of a brownish-red shade.

FIG. 2.



Macroscopical appearance of tumour cut vertically. *a*, Upper pole. *b*, Pedicle cut across. (Scale ¼.)

FIG. 3.



Microscopical appearance of teratoma showing (*a*) connective-tissue core of intracystic process with layer of columnar cells; and (*b*) numerous capillaries surrounded by zone of mucoid material.

Microscopically the greater part of the tumour—i.e., the solid whitish parts described above—consisted of fibrous tissue generally hyaline in character, arranged in loose bundles separated by mucoid material; in places hæmorrhage had occurred into the loose fibrous tissue. The cystic parts of the growth were all of essentially the same structure and I will only describe the appearance seen in sections of the pedicle and the upper pole. Under low powers the section of the pedicle reminds one in general arrangement of the structure of papillary cystadenoma of the ovary. The interior of the cysts is broken up by numerous bands of connective tissue of varying strength, which acts as supports for the cellular elements of the tissue. In places these bands can be seen springing from the wall of the cyst, so that they are in reality the connective-tissue cores of the papillary outgrowths. Under higher powers the minute structure is seen to be almost identical with that described in the lymph glands—i.e., capillary vessels surrounded by fibrous tissue which in many places has become mucoid, and outside this two or three layers of epithelial cells, the layer next the fibrous tissue being columnar, while those outside this are irregular in shape and arrangement (see Fig. 3). In one place the appearance strongly resembles that seen in papilloma of the intestine. There are numerous pigmented cells in the connective-tissue stroma. The section of the upper pole or rapidly growing part of the tumour shows practically the same appearances. In a general survey we are again reminded of papillary cystadenoma of the ovary, though perhaps not so strongly. We see, again, the same essential structure of blood-vessels surrounded by fibrous tissue or mucoid substance, this surrounded by several layers of cells, the deep layer again columnar, the other irregular; the cells in their turn inclosing small irregular cyst spaces. In no part of the tumour is there evidence of marked mitosis and neither cartilage nor bone could be demonstrated, but a number of pigmented cells, perhaps of nervous origin, were seen.

The literature in English on sacro-coccygeal tumours is very scanty and the only reference of any value which I could find was in Bland-Sutton's "Tumours Innocent and Malignant." There he describes what he calls "congenital cystic sacroma," and considers that they arise from the post-anal gut. These tumours have, he says, a definite structure consisting of "closed vesicles lined with glandular epithelium and containing glue-like fluid. Many of these tumours are composed of cysts and duct-like passages lined with cubical epithelium held together by richly cellular connective tissue. In many situations the epithelium is columnar set upon flatter cubical cells. The cysts are filled with ropy mucus and vary in size from a nutshell to the smallest space visible to the naked eye. Many contain intracystic processes."

The German literature is, however, more profuse. Borst,[2] in dealing with teratomata of the anterior and posterior ends of the trunk, after describing the various forms of meningocele and tumours arising in connexion with meningocele or spinæ bifidæ, classifies the remaining teratomata of these regions into (*a*) tumours arising from fœtal inclusions—i.e., bigerminal tumours, and (*b*) monogerminal teratoid tumours, the essential difference being that in the former recognisable rudiments of organs not normally formed from the hind end of the fœtus are found. Tumours of either class occur commonly in the sacral and coccygeal region situated either in front or behind the vertebræ or in both places, the communication between the dorsal and ventral tumour then being either through or round the side of the bone. The structure in either case is also very similar, with the one essential difference mentioned above. Both consist of solid and cystic parts. In the solid part all forms of connective tissue are found with also usually fat, unstriped muscle, bone, cartilages, and nervous elements. The cysts vary in structure; they may be lined with a cubical, cylindrical, or flat epithelium or have a mucous membrane-like or ectodermic lining. Occasionally intestinal or neural canal epithelium is met with. True dermoid elements may also be found in some, while the contents of these cysts may be fatty, gelatinous, mucoid, or bloody, and their walls fibrous, cartilaginous, bony, muscular, pigmented, or papilliform. These various forms of cysts may be intermixed in the one tumour. Besides cysts we may find complex glandular structures and in a tumour reported by Middledorf[3] belonging to the second class a piece of well-formed intestine presumably derived from the post-anal gut was found. Hennig[4] published a paper on the congenital sacral tumours in which he gives an analysis of 22 cases collected from the literature and adds two of his own. Following von Bergmann he classifies tumours of this region which do not communicate with the spinal canal into (1) cysto-cavernous lymphangiomata and (2) teratomata; these latter he subdivides into (*a*) simple dermoids, (*b*) compound dermoids, (*c*) cysto-sarcomata, and (*d*) fœtal inclusions. His cysto-sarcomata are evidently identical with Borst's monogerminal teratoid tumours and with Bland-Sutton's tumours of the post-anal gut.

The theories of the origin of these tumours are various. Meckel regarded them as showing a tendency of the hind end of the embryo to develop like the fore end, Luschka as tumours of the coccygeal gland, Calbet, Hennig, and others as true parasitic double formations, while Borst looks on them as derived from vestigial and maldeveloped structures found normally at the hind end—viz., post-anal gut, neurenteric canal, aborted tail, and coccygeal remnant of the neural canal, and he considers that they arise from one or all of these.

I think there cannot be any doubt that the tumour which I have described above belongs to the class of monogerminal teratoid tumours, but it differs from all recorded cases because of the following peculiarities.

1. Its late appearance. Most recorded tumours have been present at birth and the others were discovered very soon after birth. Probably the intrapelvic portion of this tumour was present at birth and caused no symptoms, or perhaps a very small external sacral tumour existed long before it was noticed by the patient.

2. Its comparatively simple structure. This, however, may not be so simple as it appears, for although I made a careful search for bone, &c., and cut many pieces of the growth, still the examination cannot be considered complete, especially as one man cut over 400 sections of his tumour.

3. The occurrence of metastases in the groin. In the only other reported case with metastatic growth which I could discover the secondary deposit was found in the opposite ischio-rectal fossa. The patient was only five weeks old and died after operation, whereas in my case the metastases had been present for 33 and 20 years respectively.

In conclusion, I desire to thank Professor A. C. O'Sullivan for his interest in the case and to express my great indebtedness to Dr. T. G. Moorehead for his help with the literature, without which I fear my report of the case would have been incomplete.

Dublin.

NOTES OF A CASE IN WHICH GLYCOSURIA, DEPENDING UPON CHOLECYSTITIS AND CHOLANGITIS, DISAPPEARED AFTER DRAINAGE OF THE BILE DUCTS.

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THE following case, for the notes of which I am indebted to my house surgeon, Mr. A. J. Walton, is of especial interest at the present time in connexion with the surgical treatment of affections of the pancreas. It illustrates the fact almost as clearly as if it had been an experiment devised for the purpose, that in some instances glycosuria can be caused by septic infection of the pancreatic duct, extending into it from the common duct, and that the sugar will disappear from the urine completely after efficient drainage.

The patient, a stout, middle-aged woman, with an enormous flabby abdomen, was admitted into the London Hospital on April 4th last, with the diagnosis of calculous cholecystitis and cholangitis. There was a history of her having had an attack of biliary colic 11 years before and of her having been an in-patient under the care of my colleague, Dr. Percy Kidd, in October, 1906. On that occasion she was admitted for jaundice, which had already lasted several weeks, and which slowly disappeared under treatment. She does not appear at that time to have had any biliary colic, the only pain of which she complained being some dyspeptic trouble after food; and there was no vomiting after the first few days. The urine was examined on many occasions. No mention was made of any sugar having been present, and as the highest specific gravity was only 1032 it is not probable that there was any. The present illness began on April 2nd, suddenly, with severe pain in the abdomen and vomiting. The pain was of a dull aching character, not that of colic, and was felt chiefly on the left side of the abdomen in the epigastric region. It was made worse by taking food and was relieved by vomiting. Jaundice set in the day after the attack and was fairly deep. Sickness had been almost incessant. The bowels had not been opened since the beginning of her illness.

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[2] Die Lehre von der Geschwülsten, vol. ii., p. 899.

[3] Virchow's Archives, Band cl., p. 57.

[4] Ziegler's Beiträge, No. 28, p. 592.

On admission the patient was evidently very ill. The pulse was 96, intermitting every third beat, and very feeble. The temperature was 99·2° F. and the respirations were 28. The tongue was dry and red and there was deep jaundice. On examining the abdomen, which was very large and flabby, as if the patient had wasted a great deal of late, the edge of the liver could be felt some fingers' breadth below the margin of the ribs. The gall-bladder was enlarged and tender. It moved freely on respiration. The tenderness extended across the abdomen over the region of the pancreas, but nothing abnormal could be felt even on deep pressure. The urine was acid, dark brown in colour, was of specific gravity 1050, with an average of seven grammes of sugar in each 100 cubic centimetres. There was no albumin.

The patient's condition was such that immediate operation was out of the question. Calomel and sulphate of soda were given and the bowels were made to act by means of enemata, the motions being clay-coloured and very offensive. After some days the vomiting ceased, the patient was able to take liquid food, and the pain became less severe. The bile made its appearance in the fæces, the jaundice began to get lighter, and there was a definite change for the better, the pulse becoming fuller and less intermittent, though its frequency remained about the same. The temperature, however, which had fallen after the first two days, remained persistently below normal, and the amount of sugar in the urine and the specific gravity underwent no change.

Operation was performed on April 16th, the abdomen being opened by the usual incision through the right rectus. A calculus was felt low down in the common duct. With a little manipulation it was brought up to a part that was more accessible, the duct wall was incised, and the calculus was extracted. It proved to be a composite one of very irregular shape, made up of a number of small ones of pure cholesterin, more or less fused together, and coated over for the greater part of its surface by what appeared to be a kind of false membrane formed of lymph which adhered to it firmly. There were no other calculi in the duct and nothing abnormal could be felt in connexion with the pancreas. It was firm and hard but not to such an extent as to suggest any degree of chronic pancreatitis. The gall-bladder was full of small faceted calculi of the ordinary colour and composition, quite different from that which came from the common duct. A drainage-tube was fastened into the common duct, a second into the gall-bladder, and two long gauze drains were inserted, one in front of the common duct and the head of the pancreas, the other into the right renal pouch, and the abdomen was closed. The end of the bed was well raised and about five pints of saline solution with a little brandy were allowed to pass slowly into the rectum.

The after-history of the case needs very little comment. The gauze drains were left in for three and the tubes for 16 days. A very large amount of bile came away from the upper one in the gall-bladder; a much smaller quantity mixed with a cloudy watery fluid from the lower. The sinuses remained open for about a fortnight longer, all the bile passing with the motions, and then closed. On April 27th the specific gravity of the urine had fallen to 1035 and the amount of sugar to 2·6 grammes per 100 cubic centimetres. On May 4th it had fallen to 1018 and sugar was entirely absent. From that date until the time of the patient's discharge, although the urine was repeatedly examined, and she was on ordinary diet, there was no trace of sugar to be found.

The interest of this case lies in the disappearance of the glycosuria as soon as efficient drainage was established. From the repeated attacks of cholecystitis which the patient had had (there was a vague history of several others besides these two of which the dates were known), and from the fact that she had lost much weight (as much as 4 stones) in the past few years, it is probable that there was some degree of chronic pancreatitis, though the pancreas had not the stony hardness usually present in this condition. But the disease must have been merely of the interlobular type, and not as yet have involved the islands of Langerhans. Under the influence of septic inflammation spreading up the duct the interacinar portion of the gland became involved and glycosuria followed. Fortunately, as soon as a thorough drainage was established the inflammation subsided so quickly that to all appearance no permanent injury was inflicted upon the gland. Hitherto glycosuria, when occurring in association with cholecystitis and cholangitis, has been regarded as a bar to operation. As a matter of fact, it is one of the strongest arguments in favour of it. Thorough drainage not only prevents further injury being inflicted upon the gland by the septic organisms that have invaded it but, as in the above case, restores the gland to the condition in which it was before the septic invasion took place. So far as I am aware this is the first case in which a result of this kind has been recorded.

Wimpole-street, W.

MEDITATIONS ON GOUT.

(WRITTEN DURING AN ATTACK.)

BY CHARLES MERCIER, M.D. LOND., F.R.C.P. LOND.

IT is a disease of the rich, and of the wise also: so said the old physicians who had it themselves. On the first score I have no title to it, unless the saying refers to those riches which neither moth nor rust can corrupt, and which thieves cannot break through and steal. If this hypothesis is not sustainable, I can only suppose that, considering the severity of the attack, I must be endowed with a double and treble portion of wisdom. Kings, emperors, generals, admirals and philosophers are all said to be specially subject to gout; and, with respect to most of them, I am not in a position to deny it. The number of kings and emperors on my visiting list is quite limited; and, though my patients have comprised some admirals and more generals, it is not on account of gout that they have been my patients. But as to philosophers, I can speak more confidently. Among these, my acquaintance is extensive and varied, including the Socratic, the Platonic, the Aristotelian, the Kantian, the Hegelian (not so many of these lately, I am glad to say), the Comtian (almost extinct), and the Spencerian (a diminishing body). If there is, among all these, one who can endure an attack of gout, and still remain a philosopher, I do not know where to find him.

Scattered over the last half dozen years I have had about as many attacks of gout, which I thought at the time were pretty severe, but which I now know were trifling. However, they warned me; and since the first of them, that is to say, for the six years last past, I have lived the life of an anchorite; and adopted a diet which, if not quite "purin free," has been as nearly so as anyone who occasionally dines out can conveniently adhere to. Even on these social occasions, I am usually held in derision for my abstemiousness. Consequently, an attack of gout arouses in me a sense of injustice and injury quite distinct from the ill-temper which is commonly (and most untruly, I swear it!) said to accompany the malady.

The gout came on exactly one week after a particularly malignant attack of influenza, during the first two days of which the temperature was raised three or four degrees. Now, in fever, the metabolic processes are surely active in excess; and the amount of urates excreted is increased, so that one would expect an attack of fever to neutralise and prevent an attack of gout rather than to exacerbate it, if gout is due merely to an excess of urates in the blood.

During the whole of the attack of gout, the urine was copious, high coloured, and charged with abundance of urates; and no excess of purins was being ingested, but the contrary. Why, then, were urates deposited in the joints? The amount deposited, though enough to excite very severe inflammation, was but small compared with that which was being passed out through the kidneys. The kidneys were active, and were separating plenty, but—and this is most important—they were not acting up to their full capacity; for no deposit was thrown down as the urine cooled. The urine could, therefore, have held more in solution; and, as it does occasionally hold more in solution when warm than it can keep in solution when cold, it is clear that the kidneys, active and efficient as they were, were not acting up to their full capacity. The blood that supplied the toe was taken from the very same blood-stream that supplied the kidneys. That which supplied the kidneys was not supersaturated with urates, and yet urates were deposited in the toe. On other occasions, when deposition of urates from the cooling urine indicated that the urine, and therefore the blood, were supersaturated with urates, no urates were deposited in the toe. It seems difficult, in the face of these facts, to maintain that the deposition of urates in the joints is due to supersaturation of the blood with urates.

This, then, is the position:—The kidneys are acting freely and efficiently, yet, of the urate presented to them for excretion, while the greater part is excreted, a small portion is refused, and is carried on and deposited in the toe. Why is this? As it seems to me, there can be but one explanation, and that is, not that the blood was supersaturated, so that there was more urate in it than the kidneys were competent to deal with, but that this urate, that was carried on and deposited in the toe, existed in the blood in some combination which rendered it proof against the action of the kidney. In other words, gout depends, not on the quantity of uric acid in the blood, but on the fact that, of the uric acid in the blood, some portion is in a combination that renders it proof against the action of the kidney, and invests it with other qualities.

If gout is due to excess of uric acid in the blood, then gout should occur whenever the function of the kidney is impaired, so that the amount of urates excreted is much below normal. But gout is not an accompaniment of acute nephritis; nor is it an invariable accompaniment of the late stages of granular kidney. Kidney disease is a frequent accompaniment of gout, but it is by no means an invariable accompaniment, especially of early gout. Looking to the very great capacity that the kidney has of excreting urates, gout, if it is due to excess of urates in the blood, should never appear unless and until the kidneys are seriously diseased. But serious disease of the kidney is by no means necessary to gout. But if gout is due to some special combination of uric acid, which the kidneys try to excrete and fail to excrete, it is intelligible that the presentation of this substance to the kidney may have a damaging effect on the renal cells and that kidney disease should accompany late gout. On the other hand, it is not very intelligible that these cells should be damaged by dealing with the very substance which it is a principal part of their function to excrete.

My first hypothesis is, then, that gout is due to uric acid, but is not due to mere excess of uric acid. It is due, not to a quantitative, but to a qualitative alteration of the urates in the blood. It is owing to the presence of uric acid not as such, but of uric acid in some peculiar combination. This hypothesis is not antagonistic to any of the known facts concerning gout, and it is consistent with some which are inexplicable on the hypothesis of mere excess. Beer and champagne, neither of them rich in purins, will bring on gout much more often and much more rapidly than sweetbread, which owes nearly half its weight to purin. This is not intelligible if gout is due to quantitative excess of purin; but it is easily intelligible if beer and champagne provide some constituent which combines with even a small portion of the systemic uric acid to produce a noxious urate, while sweetbread, which introduces so much more purin into the circulation, introduces it in an innocuous form. The hypothesis harmonises also with the occasional precipitation of gout by mental fatigue, anxiety, and sorrow; for the effect of mental commotions in altering metabolism is indubitable, and among the products of such metabolic perturbance there may very well be small amounts of a substance that can combine with uric acid to form a noxious urate. But there is no evidence that the effect of mental commotion is to saturate the blood with uric acid, though such evidence should be obtainable if the fact were so. Again, migraine as well as gout is attributed to excess of uric acid in the blood. But migrainous headaches do not accompany attacks of gout, nor do attacks of gout accompany migraine. Migraine and gout do, it is true, often occur in the same person, but never at the same time. If they are both due to excess of uric acid in the blood, why do they not accompany each other? It may be said that if the excess of uric acid is deposited in the toe, it is no longer in the blood to produce migraine; but accepting this explanation, it still follows that an attack of gout should always be preceded by an attack of migraine, which should be relieved by the deposition of urate in the joint. But this is not what happens.

This leads me to my second hypothesis: that the combination of uric acid that produces gouty symptoms is not always the same, but there are probably many urates, which agree in being noxious, and in being more or less proof against separation by the kidney, but which differ in their pathological effects. There are many facts which favour this hypothesis. A patient of mine can always, by consuming a few heads of asparagus overnight, bring on a migrainous morning headache with scotoma—scotoma alone by a few heads, scotoma plus headache by a few more. Yet, however much asparagus he may consume, it never brings on an attack of gout. It is noteworthy also, that he gets neither scotoma nor headache by eating twice the weight of beef, although beef is said to contain ten grains of purin to the pound, while asparagus is credited with a grain and a half only. Clearly, therefore, something must be taken into account beyond the mere amount of purin that is consumed; and what is this something if not the particular chemical combination derived from the purin? Colchicum sometimes acts "as a specific" in gout; sometimes it produces no effect at all. I see no explanation of this difference except a difference in the chemical constitution of the urate. The attack of gout is, I take it, due to the deposition of urate in the joint. The subsidence of the attack follows, not the removal of the urate, for the joint continues to contain urate long after the attack is over, but to the cessation of deposition. If colchicum contributes to this cessation, it can only do so, as it seems to me, by entering into such a combination with the noxious urate in the blood that it ceases to be noxious, and becomes removable by renal action. If, as is the case, colchicum sometimes produces this effect and sometimes does not, it must be that in some cases the colchicum has a stronger affinity for uric acid than the body whose combination renders it noxious, and sometimes has a weaker affinity, and is unable therefore to displace this body. Hence I suggest that the varying manifestations of the gouty diathesis are due to varying, but allied, combinations of uric acid, probably with various but allied organic substances.

My third hypothesis concerns the attack of gout and its localisation in the joints. The prevalent explanation is that the deposition of the urate is due in some way to the fact that the tissues in which it is deposited are but slightly vascular; but if this is so, a favourite place for the deposition of the urate should be the cornea, in which such deposition is unknown. I suggest that the articular cartilages may secrete a substance which has a predominant power of breaking down the combination of uric acid with its organic ally, and converting it into urate of soda. On this view, the action of the cartilage, in breaking down the peccant combination, separating the urate from the blood, and retaining it in the joints, may be as conservative to the organism as a whole as the action of the blood cells in separating bacilli and consuming them. It is bad to have an attack of gout; but, by common consent, it is worse to have those gouty manifestations which cease when the attack of gout takes place. Surely, the recovery of the first Earl of Chatham from his insanity was cheaply purchased by an attack of gout. When a pernicious combination of uric acid is circulating in the blood, damaging the kidney, thickening the arterioles, perhaps perverting the action of the brain, it may be as valuable and as conservative for this combination to be broken down, even at the cost of a gouty joint, as it is to have a brood of streptococci extruded, even at the cost of an abscess. Almost monthly, discovery is made of some new and unsuspected chemical interaction of the tissues on one another and on the blood: there is nothing inherently improbable, then, in the suggestion that one of the functions of cartilage is to prepare a precipitant for some combinations of uric acid that are specially noxious, and that are proof against the separating action of the kidney. I am not chemist enough to know whether the resources of modern chemistry are equal to the task of testing these hypotheses, but should it be so, I suggest that they are a fair subject for bio-chemical investigation.

Wimpole-street, W.

EAST LONDON HOSPITAL FOR CHILDREN.—We learn that a bazaar to help this hospital is to be held in November next and that the Mayfair Motor Company of 22, Mortimer-street, London, W., has placed at the disposal of the chairman of the hospital one of its 6 horse power Mayfair cars. This is to be raffled for at the subscription price of £200, divided into 400 tickets of 10*s.* each, the money going to benefit the hospital. Tickets may be had either from the secretary of the hospital or from the secretary of the company, at whose offices the car will shortly be on show.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF MELÆNA NEONATORUM.

BY A. R. GUNN.

IN view of the appeal made by Dr. J. B. Page in the columns of THE LANCET of May 25th, p. 1431, the following instance of this rare and usually fatal condition may be worthy of record. One night last February I was present at a confinement in which labour was delayed by a persistent occipito-posterior presentation. The patient was also seen by Dr. H. Oliphant Nicholson. Forceps were applied and about 4 A.M. a small, under-sized, rather premature child was delivered, on whom vigorous and prolonged treatment was necessary before respiration could be induced. Some 20 hours after birth I was again called to the child who I found had passed during the three preceding hours, that is, since 9 P.M., several large, copious, extremely tarry stools, and had vomited frequently, and was at the time of my visit shrunken and collapsed. In the vomited material there were no clots, but it contained a small quantity of dark fluid blood which deeply stained the clothing. Since birth the child had not at any time been put to the breast. The treatment adopted was to give a small initial dose of castor oil followed by occasional sips of cold sterile water, strict attention being paid to the preservation of warmth. In a short time the vomiting ceased, the profuseness and tarry nature of the stools disappeared, and the child afterwards made an uneventful and wholly unexpected recovery.

Edinburgh.

A FATAL CASE OF MELÆNA NEONATORUM.

BY ALICE M. WHITE.

ON Jan. 11th, 1907, at 10.30 P.M., I was called in my capacity as a midwife to attend a confinement case. The notes may be interesting in connexion with the case reported by Dr. J. Basil Page in THE LANCET of May 25th, p. 1431. The mother had remained confined to her room for the last three months of her pregnancy owing to an injury. At 11.15 P.M. she was delivered of a female child and at 11.25 the placenta came away, the case being in all points normal and the female infant quite well. 36 hours after the birth I was called by an elder daughter, who said the baby was bleeding from the mouth. I was at the house within five minutes of the call and found no sign of bleeding from the mouth, but upon taking the child from the bed saw that she was lying in an actual pool of blood, which it appears the mother had not noticed. I at once dispatched the father for a medical man and undressed the child to find, if possible, the site of the hæmorrhage. This I found to be the rectum. By means of iron injections the hæmorrhage was controlled and the infant took a little diluted milk with a little salt added, but the case had gone too far and four hours later the child died. The medical man certified that she died from hæmorrhage and there was no post-mortem examination. The mother's story showed that the child had awakened at about 5 A.M. on the day of her death and had been given a few spoonsful of pure milk—contrary to directions, of course. She "changed" the child by candle light, early in the morning, and noticed that the motions were dark. I found on arrival that the child had passed large clots of blood, so the bleeding had evidently gone on for four or five hours, the mother having slept until 10 A.M. in the morning.

⁂ The interesting little accounts of cases of melæna neonatorum which we publish above are not written by medical practitioners. We very rarely publish in our clinical records the notes of any but qualified medical practitioners—we may say that we make this limitation a rule—and it is curious that the two exceptions to the rule should have occurred simultaneously. Miss White is a certified midwife. Mr. Gunn is a senior medical student working on "genetics" under Professor Schäfer in the physiological laboratory of the University of Edinburgh.—ED. L.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum *historias*, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., *Proœmium.*

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL, E.

A CASE OF GENERAL PNEUMOCOCCAL INFECTION, WITH ACUTE NECROSIS OF BONE.

(Under the care of Dr. J. A. COUTTS.)

FOR the notes of the case we are indebted to Mr. A. L. Loughborough, house physician.

A female, aged two years, was admitted on April 3rd and died on May 8th, 1907. The history of the case was as follows. The child had always been healthy up to two months ago when she developed measles, since when she had not been herself. On April 1st (two days before admission) she had been taken suddenly ill with diarrhœa, vomiting, and fever. She had complained of headache and pain in the right side of her chest. Her breathing had been rapid and for the last two days she had developed an irritating and troublesome cough. There had been no convulsions. She had been lying semi-conscious in her mother's arms for the last 24 hours.

On admission the patient was a well-nourished child looking desperately ill; her face was ashen white. She was breathing rapidly and her alæ nasi were working. Respirations were laboured and accompanied now and then by a short dry cough. The respirations were 44, the pulse was 168, and the temperature was 102° F. As regards the lungs the right base was dull to percussion up to the angle of the scapula. On auscultation the breath sounds were diminished and bronchial in character; the voice sounds were distant. The left lung appeared to be normal. The heart's apex beat was a quarter of an inch outside the left nipple line. The sounds were clear, with some accentuation of the second at the base. There was no increase in the area of cardiac dulness. Physical examination revealed nothing further of interest. The right base was explored on admission with a negative result.

On the following day the child seemed much worse. The temperature was 103°, the pulse was 168, and the respirations were 68, and from this time the child went steadily down-hill. On the fourth day after admission she was practically moribund and was given a mustard pack with marked improvement to her condition. Two days later (the sixth after admission) a fluctuating and pulsating swelling of about the size of an ordinary hen's egg was noticed over the fourth and fifth spaces just outside the left nipple line. On closely examining this swelling the pulsation was clearly transmitted. The swelling was incised and about three ounces of greenish pus were evacuated. At first this was thought to be a pointing empyema, as air was sucked in and then expelled through the incision, but as no physical signs of a collection of fluid on this side were detected the incision was enlarged and a more complete examination revealed that the fifth rib at its junction with the cartilage had undergone necrosis and that the abscess formed was totally extrapleural. The bone was bare and quite easily removed, the wound being drained. As the signs at the right base persisted 14 days after admission and the child did not improve a second exploration was made and pus was found and evacuated by a simple incision and drainage. A few days later the right shoulder-joint was found to be swollen, painful, and apparently full of fluid, and this by exploration was found to be pus; the joint was accordingly opened and drained. Three days after this the left hip-joint obviously contained fluid which proved to be purulent. This joint was also opened and drained. From this time the child seemed to become gradually worse, getting more wasted every day, the temperature dropping to subnormal, and she died in an exhausted condition on May 8th.

Necropsy.—At the post-mortem examination it was found that about half an inch of the anterior end of the fifth rib, together with about the same amount of cartilage, had undergone acute necrosis with absorption. As regards the lungs the lower lobe on the right side was solid and airless (i.e., pneumonic); the left lower lobe was partially collapsed. The heart and pericardium were normal. An abscess was found between the pericardium and the pleura covering the right middle lobe. This abscess contained about three ounces of greenish non-offensive pus. The sinus of a granulating empyema was seen at the right base with much thickening of the pleura. The right shoulder-joint contained pus; the process had apparently started on the shaft side of the epiphysis, the head of the bone being completely separated. The left hip-joint also contained pus; the head of the bone was not separated; there was some erosion of cartilage. Nothing else of interest was found.

Bacteriology.—The following bacteriological examinations were made. Pus from the necrosed rib and from the empyema, the shoulder-joint, the hip-joint, and the pleuro-pericardial abscess (post mortem) gave pure cultures of the pneumococcus. Blood cultures ante-mortem and from the heart's blood post mortem proved negative.

Remarks by MR. LOUGHBOROUGH.—I think this case is of interest, as acute necrosis of bone due to the pneumococcus is so unusual that it is worthy of publication. The process of bone destruction with regard to the humerus is also peculiar. I should like to point out the marked good effect which the mustard pack (viz., a sheet wrung out in a solution of 1 pound of mustard to 3 pints of water, in which the child is wrapped from ten to 20 minutes, then washed in a warm bath and put into hot blankets) had on the child who was practically moribund at the time it was given.

For permission to publish these notes I am much indebted to Dr. Coutts. I also have to thank Dr. H. Pritchard for kindly giving me the post-mortem and bacteriological reports.

NORTHAMPTON GENERAL HOSPITAL.

A CASE OF LARGE PAPILLOMA OF THE OVARY.

(Under the care of Dr. W. M. ROBSON and Mr. P. N. B. ODGERS.)

A FEMALE, aged 26 years, unmarried, was admitted to the Northampton General Hospital under the care of Dr. Robson on June 24th, 1906 She gave the following history. For the last seven years she had been subject to attacks of pain in the lower part of the abdomen, which were always worse at the menstrual periods. These had never been bad enough to make her lie up until three weeks ago. The catamenia had been regular every four weeks, lasting usually four or five days, until three months ago, since when they had been irregular and scanty. She had always had some amount of dysmenorrhœa and this had got much worse during the last year. Her bowels had been constipated for some time; she had never had any trouble with micturition. Three weeks ago she had to take to her bed owing to the severity of the abdominal pain, and when first seen at this time by Dr. Robson in consultation with Dr. J. Bayley, she evidently had some pelvic peritonitis. The lower half of the abdomen did not move with respiration, while it was extremely rigid and tender. Her temperature was 101° F. Under appropriate treatment the acute symptoms subsided, and when admitted into the hospital a more thorough examination was possible.

On admission she was markedly anæmic and thin. On examination the lower part of the abdomen was filled with a large fixed irregular bossy mass which reached from the pubes almost to the umbilicus. Laterally it extended further to the left than to the right. A vaginal examination revealed the uterus pushed forwards by this mass which completely filled Douglas's pouch. The fundus of the anteverted uterus could be felt, pressed up against the abdominal wall, distinct from the tumour which was attached to its posterior aspect. There was no ascites. With regard to diagnosis, the two most likely conditions appeared to be either a tuberculous peritonitis originating in the tubes or a solid ovarian tumour, the former being favoured at all events at first. For two months, therefore, she was put out of doors and placed on forced feeding and cod-liver oil. Her general health improved greatly during this time but the pelvic condition remained unchanged.

An operation was now decided upon and this was performed by Mr. Odgers on August 21st. A median incision being made, a solid mass was at once exposed filling the pelvis and adherent to its lateral walls, to the posterior surface of the uterus, and to the pelvic colon. These adhesions were separated with some little difficulty and the tumour was then found to spring from the left ovary. This latter was removed with the left tube. The right ovary was normal and there was no evidence of secondary deposits on the general peritoneum. Although somewhat collapsed after the operation, the patient rallied well and her convalescence was uneventful. She left the hospital on Sept. 20th and since then has been back at work quite well.

The tumour, when removed, was of the size of a child's head and weighed 2½ pounds. While the greater portion of it presented smooth bosses and looked like a fibroma on section, the part near the ovary was papillary. The ovary itself was surrounded by, but not involved in, the papillomatous growth, which appeared to have its origin at the hilum. A piece of either portion of the tumour was sent to the Clinical Research Association, which reported that it was a simple papilloma throughout but presented differences in the amount of stroma present.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Causes and Surgical Treatment of Colitis.—Experiments on Prolonged Protein Feeding of Fowls and Rats.—Changes in the Red Corpuscles in Pulmonary Tuberculosis.

A MEETING of this society was held on June 11th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. J. P. LOCKHART MUMMERY read a paper entitled "The Causes of Colitis, with Special Reference to its Surgical Treatment, with an Account of 36 Cases," which is published in full at p. 1633.—Dr. W. HALE WHITE, commenting on the title of the paper, remarked that the term colitis was too comprehensive, because this included many different intestinal conditions, whereas Mr. Mummery had apparently dealt with only one of these—namely, muco-membranous colitis. Membranous colitis, on the other hand, was a definite disease occurring for the most part (80 per cent.) in women, attended by the passage of mucous casts and frequently associated with neurotic symptoms, with various visceral displacements and sometimes with membranous dysmenorrhœa. Most of Mr. Mummery's cases were males, in only about one-third were mucous casts passed, and they did not fall into the latter category. It was undoubtedly important to recognise the existence of local lesions, and he (Dr. White) recognised the value of the sigmoidoscope, but there were many cases which were not dependent on a local lesion. Moreover, some cases were secondary to local trouble in other parts of the colon (as evidenced by tenderness and the length of the casts) which could not be so revealed. Undoubtedly, there was a large number of cases independent of any local lesion, cases which generally recovered under appropriate medical treatment.—Sir DYCE DUCKWORTH also regarded membranous colitis as a distinct class of the disease. Many of these cases got quite well when treated by diet and simple injections, and he instanced the results obtained at Plombières-les-Bains. Mr. Mummery's cases did not all belong to this group; they were, however, severe intractable cases suitable for surgical treatment.—Dr. F. PARKES WEBER referred to some of the minor forms of catarrhal colitis which were not included in Mr. Mummery's paper. Such minor forms were quite common and were amenable to exercises and various other forms of treatment. He (Dr. Weber) believed that many of these cases were diagnosed as cases of recurrent "biliousness." Subchloride of mercury was an excellent treatment for such cases, though not necessarily by its action on the liver. When the intestinal mucous membrane was unhealthy the flora of the intestine was increased and calomel might act as an antiseptic. Curiously, purgation aggravated the symptoms at first, probably by increased absorption of toxins from the bowel.—Dr. P. J. CAMMIDGE commented on the absence of blood from the fæces in the malignant cases recorded and asked if a chemical or microscopical examination had been made.

The presence of blood revealed in this way was, in his experience, a constant and diagnostic feature of malignant disease of the bowel. In regard to simple colitis he had found three constant features in the stools: (1) an alkaline reaction; (2) an excess of inorganic ash (as much as 40 per cent. of the dried fæces, compared with the normal 15 per cent.); and (3) disturbance of the normal ratio (10 to 12 per cent. of each) between the saponified and unsaponified fat, when this ratio might be represented by 8 per cent. of the former and 22 per cent. of the latter.—Dr. SYDNEY P. PHILIPS, discussing the causes of colitis, could not regard constipation alone as an adequate cause; it was a very common condition and existed in many people who never developed colitis. The causes of ulcerative and other forms of colitis were very obscure. The sigmoidoscope was doubtless useful but it could not render assistance when the lesion was above the sigmoid flexure, as in a case to which he referred of ulcer of the transverse colon.—Dr. H. A. CALEY believed that Mr. Mummery had regarded some of the lesions as causes which were in reality consequences of the colitis. Might not the ulcerations and the adhesions come under the latter category? In regard to appendicitis also Dr. Caley held that it was the result of a previous colitis and not the converse.—Mr. MUMMERY replied.

Dr. DAVID FORSYTH read a paper entitled "Experiments on Prolonged Protein Feeding, with Special Reference to the Thyroid Glands and the Osseous System," which will be published in an early issue of THE LANCET.

Dr. E. I. SPRIGGS exhibited three series of rats fed upon different diets. The first series was fed on meat and distilled water, the second on meat with lime salts, and the third (the control series) on bread and milk. The coats of the first series were rough and filthy, the animals were thin, and their general condition was bad. The coats of the second series were good and their general condition was healthy. The coats and health of the third series were normal. The conclusion was that the change observed in the fur of these animals when placed upon a proteid diet was due to the absence of lime salts rather than to the proteid diet.

A paper by Dr. NOEL D. BARDSWELL and Mr. J. E. CHAPMAN on the Changes in the Red Corpuscles in Pulmonary Tuberculosis was taken as read owing to insufficiency of time.

PATHOLOGICAL SOCIETY OF LONDON.

Hæmogregarines in Snakes.—The Histogenesis of Goitre.—Osteolipoma of the Brain.—Valedictory Address.

THE final meeting of this society was held on June 4th, Dr. P. H. PYE-SMITH, the President, being in the chair.

Dr. L. W. SAMBON described Ten New Hæmogregarines from the blood of as many species of snakes. The forms seen were considered to be sporonts, no division forms of the asexual cycle being observed. The sporonts were all encapsuled and the author pointed out that these capsules presented a delicate oblique line passing transversely across the long axis of the parasite at from 1 to 2 μ from one or both of its extremities. Sometimes this line showed as a white, highly refracting, unstained line, and in others, especially in specimens prepared with Giemsa's stain, these lines were stained of the same pinkish colour as the general outline of the capsule. It was suggested that these lines might represent lines of future cleavage of the capsule. In films prepared from blood which had been exposed to the air for a few minutes a greater or smaller number of sporonts were found free in the blood plasma. A small beak-like projection was noted at the anterior extremity of certain of the parasites. This small rostrum appeared to be retractile and in two species the author noted the frequent presence of a white somewhat sinuous line which, starting at the base of the rostrum, extended for about 7 μ into the interior of the parasite in a way which seemed to suggest a definite structure. In one species, *Hæmogregarina rarefaciens*, the sporonts presented a definite dimorphism which was thought to represent possibly sexual differentiation. The host cells of the same species appeared enlarged to two or three times their normal size while thinned out to an extraordinary degree, so that lines like creases ran across the corpuscles, the edges of which might appear wavy; such corpuscles were completely dehæmoglobinised. The species described were:—*Hæmogregarina Pococki*, in Indian python, Python molurus; *H. Shattocki*, in diamond snake, Python spilotes; *H. refringens*, in hoary snake, Pseudaspis cana; *H. Mansoni*, in testaceous snake, Zamenis flagilliformis; *H. rarefaciens*, in Couper's snake, Coluber corais; *H. Cantlici*, in conical eryx, Eryx conicus; *H. Wardi*, in king snake, Coronella getula; *H. Brendae*, in hissing sand snake, Psammophis sibilans; *H. Seligmanni*, in bushmaster, Lachesis mutus; and *H. Terzii*, in common boa, Boa constrictor.—Dr. D. N. NABARRO said that gregarines were known in the blood of other species—viz., frogs and fishes. These were sometimes found in the white corpuscles, and at the present time he had a rat in which the gregarines were present in the white corpuscles. He asked whether it was known what relation these bore to those found in the red corpuscles.—Dr. SAMBON, in reply, said that in snakes the leucocytes were also sometimes infected.

Dr. P. G. E. BAYON demonstrated a series of microscopical slides and specimens showing how Desquamation of the Epithelial Lining of the Colloid Follicles in the Thyroid may be followed by the Development of Parenchymatous Goitre. The new tissue grew from the existing follicular epithelium. Such desquamative processes had experimentally been shown to be the result of most varied causes, as injections of toxins or bacteria into the thyroid artery, ligature of the vessels, and injections of mineral poisons into the parenchyma of the gland. Increase in size of the gland had resulted in course of time. Some toxic reactions of the thyroid led up to proliferation of the secreting epithelium as found in Graves's disease and shown experimentally on the dog. Severe and diffuse injuries of the thyroid of bacterial or toxic origin led to complete connective tissue substitution of the glandular tissue, as seen in myxœdema and sporadic cretinism and produced experimentally in the rabbit and cat. Adenoma of the thyroid did not appear to take its departure from embryonal tissue, as its intracellular fat differentiated it from the cells of the embryo thyroid. Experimentally adenomatous tissue, with enormous increase in size of the thyroid, had been produced in the rabbit by incomplete ligature of the thyroid arteries. This was the first and only successful attempt to produce goitre experimentally in a non-goitrous district without the aid of bacterial infection.—Dr. W. P. HERRINGHAM said that the pathology suggested by Dr. Bayon was not supported by the clinical aspect of Graves's disease.—Dr. S. RUSSELL WELLS said that he had always regarded Graves's disease as a form of inflammation of the thyroid gland and had treated such cases with compresses of adrenalin with considerable success. He looked upon the condition as comparable to a scarlatinal nephritis.—Dr. C. G. SELIGMANN asked that since a severe lesion gave rise to a fibroid condition of the thyroid gland whether it could be shown that cretinism was due to the same process.—Dr. F. PARKES WEBER compared the condition met with in the thyroid to that found in the liver in which there was obstruction to the bile duct.—Dr. BAYON, in reply, said that there were two forms of cretinism: one in which the thyroid was never developed, only the parathyroid being present, and another in which the thyroid was fibrous.

Dr. F. PARKES WEBER and Mr. PETER PAUL DASER described an Osteo-lipoma of the Brain. A bean-shaped tumour, measuring 15 by 10 by 10 millimetres, was discovered at the base of the brain in making a post-mortem examination on a women, aged 29 years, with chronic renal and cardiac disease. It had produced no symptoms during life. It lay behind the optic chiasma and between the optic tracts, arising from the back of the infundibulum cerebri, close to the attachment of the pituitary body. It consisted of typical pale yellow fatty tissue, including a harder and darker nodule, of the size of a small pea, which on microscopic examination was found to be composed of cancellous bone. Sections cut after decalcification showed the structure of the trabeculæ to be that of true bone, with lacunæ and canaliculi and here and there an Haversian canal. The medullary spaces between the trabeculæ contained red bone marrow with scarcely any fat. In the literature on the subject an analogous case described by Dr. H. O. Bristowe at the society in 1855 was specially referred to.

The PRESIDENT then gave the following address. He said: Our society, which enters on a new career to-day, was founded in 1846. The first president was Dr. C. J. B. Williams, a pupil of Laennec, an accomplished pathologist and experimenter in more than one direction, a man of high character to whom I, as a young physician, was more than once indebted. He was followed, after two years, by a surgeon and this alternate choice between the two branches of the profession has been preserved until very recently. In 1848 Mr. Aston Key succeeded to the presidency; a brilliant surgeon, who was prematurely cut off by the epidemic cholera of 1850. His successor, Dr. Peter Mere Latham, was best known by his admirable lectures on medicine, almost equal in style to those of Paget and delivered at the same celebrated medical school. The second surgical president, Mr. Cæsar Hawkins of St. George's Hospital, died before he had completed his term (1853) and was followed by Dr. Guy Babington. This son of the eminent physician and mineralogist, whose statue stands in St. Paul's Cathedral, was also a remarkably accomplished man. He was sent to sea as a midshipman and was present at the battle of Copenhagen. He was afterwards professor of Tamil in India and graduated from Pembroke College, Cambridge—a learned physician and the physiologist who first defined the blood, not as consisting of serum and clot, but as of corpuscles and liquor sanguinis or plasma (as we now call it). He also invented a "glottiscope" in 1829 to enable the vocal cords to be seen, an earlier though less perfect instrument than those of Garcia (1855), and Türck (1857), and Czermak and Türck (1858). The name "speculum laryngis," or laryngoscope, was given by his colleague, Dr. Hodgkin. Babington was succeeded in 1855 by Moncrieff Arnott, a Scottish surgeon of wide scientific knowledge, which he used with liberality and ingenuity in practical hygiene. In 1857 Sir Thomas Watson became president, a man beloved and honoured like the elder Babington, and master of a style as classical and more easy than that of Latham. Sir William Fergusson, the eminent Scottish surgeon, of King's College, became president in 1859, and was succeeded by Dr. Copland, the author of a once popular cyclopædia of medicine. The next president was Sir Prescott Hewett, an accomplished surgeon and a most skilful operator. His successor in 1865, Dr. Peacock, was one of the best presidents we have ever had; a master of pathological anatomy, as well as of medicine, liberal and honourable, and not without a touch of humour on occasions. Like Fothergill, he was a member of the Society of Friends. He was followed by Sir John Simon (1867), senior surgeon, as Dr. Peacock was senior physician, of St. Thomas's Hospital. He was an able surgeon and a distinguished pathologist, but his general work was advising the Local Government Board on questions of public health, and his reports were remarkable for their scientific and practical value as well as for their precise and elaborate style, which sometimes reached eloquence. Sir Richard Quain was the next president; an Irishman, with the full share of his countrymen's ready wit and strenuous energy. His researches on fatty degeneration of the heart were of original value. He was the chief motive power in making the useful and necessary change from our original house in Berners-street to the present spacious rooms and he would have been delighted to see the union of societies which is now an accomplished fact. As President of the General Medical Council he gave a noble example of devotion to duty when knowing that he was the subject of incurable disease. The next surgical President was John Hilton (1871), an accomplished anatomist, an admirable teacher, and an original observer. His lectures on Rest and Pain were justly called by Giraldés "ce grand ouvrage de Mons. Hilton." A man no less eminent, upright, and plain-spoken was Sir William Jenner, for many years the Capo di Scuola at University College. He was a true pathologist and, as the acknowledged head of the profession, set a bright example of great talents used for the benefit of the public and the profession. Those of us who saw him introducing a deputation to the Home secretary, Sir Richard Cross, will never forget his eloquent defence of scientific investigation. The following President was Mr. George Pollock of St. George's Hospital, member of a family renowned in law and in arms, as well as in medicine, and himself a judicious and successful surgeon. Mr. Pollock was followed by Dr. Murchison (1877), a pupil of Hughes Bennett at Edinburgh, and long a remarkable bedside teacher at St. Thomas's Hospital, who, like Peacock, was removed by sudden death when visiting a patient. He was an eminent pathologist and an excellent geologist as well as a clinical teacher. The next president was Mr. Hulke, a sound surgeon, an accurate pathologist, and sharing with the elder Babington and Murchison the honour of eminence in geology, for Mr. Hulke was president of the Geological Society and of the College of Surgeons as well as of our society. Dr. Bristowe of St. Thomas's Hospital was a friend and colleague of Wilks, whom he rivalled in the number and value of his contributions to this society. He was an admirable teacher and a cultivated and liberal man. The majority has long received the next president on our list, Sir James Paget (1887), one of the most eminent pathologists this society can boast. All his observations were accurate and his exposition clear and concise. His insight was remarkable and wide. In purity of style and in oratory he outstripped all his fellows. His son's biography is a remarkable success in a difficult task. Sir George Humphry of Cambridge was an admirable lecturer, a keen observer, and a philosophical anatomist. The services he rendered to the Medical School at Cambridge deserve to be held in everlasting remembrance. Much more recently this society has been deprived by death of Sir John Burdon Sanderson, who became President in 1902—an eminent and accomplished pathologist who touched every allied subject and who adorned all that he touched. His work in University College and at Oxford has been well described by his successor, Professor Gotch. His lofty stature, his fine features, his dignity and urbanity, combined to form a figure of singular interest. As a teacher and a writer he was no less admirable. His best original work lay in that fruitful field which lies on the confines of zoology and botany. Such is the list of our past presidents who have joined the majority. But we thankfully and proudly point to no less distinguished men who are still with us. I could not do justice to their merits and must content myself with barely reciting the names of our surviving presidents: Sir Samuel Wilks, Mr. Hutchinson, Dr. Dickinson, Dr. Pavy, Mr. Butlin, Dr. Payne, and Mr. Watson Cheyne. May they long enjoy their well-earned reputation and rest assured that we regard them with pride and gratitude, with admiration and affection. When our society was founded pathology was still the handmaid of medicine and surgery, as is shown by the names I have cited. The science has now a far more independent position and is the foundation or *institute* on which all scientific prevention and treatment of diseases must rest. The study of morbid anatomy was the beginning of rational pathology. Then followed experiments on living animals, like those of Harvey himself, of Mayow, of Stephen Hales, of Hunter, and of Sir Charles Bell. Since 1846 we have seen the rise and vast progress of bacteriology as the third and most important chapter in the cause of disease. The fourth division of pathology is chemical, at present in its infancy, but probably destined to open many fresh paths to investigation. Especially fruitful will probably be the borderland between animal and vegetable pathology. The recent investigations by Professor Halliburton and Professor Mott into degeneration of nerve fibres deal with the conditions not only histological but also chemical. Moreover, by an unexpected series of observations it appears to be demonstrated that a parallel series of changes, after Wallerian degeneration of nerve fibres but in the reverse order, may lead to a restoration of the axis cylinder and ultimately of the whole injured nerve fibre. At present the future of experimental pathology lies on the knees of the Royal Commission on Vivisection. Let us hope that the result will be to give greater freedom for experimental methods. The minute anatomy of disease is not yet complete. The chemical aspect of pathology is not more than begun and our contributions in this department are comparatively few, though in value they have been great. Nowhere is the ground more promising than on the confines of physics and physiology, between botany and zoology, between chemistry and physics. The investigations embodied in Professor Farmer's admirable lecture before the Royal Society show how complicated may be the structure of a single cell. But complicated or simple it still baffles all attempts to explain its functions and their mechanism. To apply the words of an anonymous poet of the seventeenth century: In the ovum or the germ-cell

> "The thread of life untwisted is
> Into its first consistencies;
> Infant nature cradled here
> In its principles appear."

And, so untwisted, its principles are as great a puzzle as ever.

The society was then declared dissolved and the present council and officers were elected to constitute a provisional committee of the Pathological Section of the Royal Society of Medicine.

OBSTETRICAL SOCIETY OF LONDON.

Pregnancy in a Rudimentary Uterine Horn.—Primary Vaginal Embolic Chorion-epithelioma. — Chorion-epithelioma complicated by Hæmatometra.—Exhibition of Specimens.

A MEETING of this society was held on June 5th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. H. RUSSELL ANDREWS read a short communication on Two Cases of Pregnancy in a Rudimentary Uterine Horn. In the first case pregnancy had occurred in a right rudimentary horn and had gone on to about eight months when the fœtus died. Laparotomy was performed five months later, when suppuration had occurred. The specimen removed showed a small uterine cavity on the left side and the large right horn. The patient recovered. The second case was one of ruptured pregnancy through the rudimentary uterine horn at about the eighth month. The pregnant horn ruptured causing severe intra-peritoneal hæmorrhage. Laparotomy was performed and the pregnant horn removed but the patient died about an hour after the operation. The fœtus did not appear to be of much more than six months' development.—Miss L. GARRETT ANDERSON mentioned a case of cornual pregnancy on which she had operated recently. The gestation sac lay in the undeveloped right horn of the double uterus and corresponded to about two months pregnancy. The right ovary contained a recent corpus luteum. There was no communication between the right horn and the exterior.

Mr. HENRY T. HICKS read a paper on Primary Vaginal Embolic Chorion-epithelioma which was founded on a case of primary chorion-epithelioma occurring in the vagina of a women, aged 28 years. A hydatid mole was passed and the growth was accidentally discovered about a month later. There was no evidence of primary uterine growth. The sections showed that the growth had the structure of a chorion-epithelioma, but no villi were seen. 14 other cases had been collected from the literature on the subject and the question of the degree of malignancy of this form of growth was discussed, as well as the theories as to the origin of the vaginal growths. The time at which the growth might appear in relation to the gestation was also mentioned. The patient remained free from growth for seven months after removal of the first growth. The second growth was excised without delay but two new foci appeared quickly. These were removed but two months later the anterior vaginal wall became rapidly infiltrated with extensive growth and it was decided that further operation would be hopeless. The patient, who up to this time had been comparatively well, now went downhill with great rapidity. The growth commenced to fungate into the vagina in many places, causing hæmorrhage. The temperature rose and signs of pulmonary trouble became evident. The patient died on May 8th, 1907, 11 months after the passage of the mole. The specimen removed at the necropsy was shown, together with sections and drawings of the growth. Some secondary nodules were found in the right lung.

Dr. W. S. A. GRIFFITH and Dr. HERBERT WILLIAMSON communicated a paper on a case of Chorion-epithelioma complicated by Hæmatometra. The case was recorded of a woman, aged 42 years, who was delivered of a mole, probably hydatidiform, on Dec. 30th, 1905 The patient had borne four children, the last eight years previously; her fifth pregnancy commenced in the early part of June, 1905. From August to December she suffered from numerous small vaginal hæmorrhages; from Nov. 17th to Dec. 29th she was under close observation, and as no increase in the size of the uterus occurred during this period a diagnosis of molar pregnancy was made and abortion was induced. A mole was expelled which in its general characters resembled a carneous mole, but upon the surface were seen a few vesicles. Three week later (January, 1906) the patient suffered from persistent hæmorrhage and the passage of clots; the uterus was explored and a quantity of blood clot and débris was removed. From this time the hæmorrhage ceased excepting for the loss of a very small quantity of dark blood on Feb. 16th, but the uterus again became enlarged and pain was felt in the pelvis. On March 3rd the uterus and ovaries were removed by the abdominal route. In November, 1906, the patient died with signs of new growth in the lungs. The uterine cavity was greatly distended with fluid and clotted blood, the cervix being completely occluded by blood clot. A growth of the nature of a chorion-epithelioma were found on the anterior wall near the fundus. Numerous lutein cysts were present in both ovaries. A description of the naked-eye and microscopical appearances of the parts removed was given and special attention was drawn—(1) to the excessive formation and wide distribution of lutein tissues throughout the ovaries; (2) to the support afforded by the specimen to the theory that lutein cells might arise by modification of the connective-tissue cells of the ovarian stroma; and (3) to the presence of a layer of necrosed tissue closely resembling Nitabuch's layer of canalised fibrin between the uterine wall and tumour outgrowths.—Mr. J. H. TARGETT thought that all cases of double lutein cystic tumours of the ovary should be carefully recorded. At an operation for ovarian cyst with pregnancy at the fourth month he found that the tumour consisted of thin-walled lutein cysts which partly ruptured on removal. The opposite ovary was in a similar condition. Both tumours were removed. A fortnight later the patient aborted. The fœtus was macerated and the placenta was partly composed of vesicular mole. So far the patient had shown no sign of development of chorion-epithelioma —After some remarks by Dr. G. F. BLACKER, Mr. HICKS and Dr. GRIFFITH replied.

The following specimens were shown:—

Dr. C. J. N. LONGRIDGE: (1) Rupture of the Heart in a Still-born Baby; and (2) specimen and drawings of Dilated Ureters in Still-born Infants.

Dr. AMAND J. M. ROUTH: Pelvic Organs from a case considered to have Inoperable Ovarian Papilloma seven years previously.

The PRESIDENT: Myomatous Uterus, weighing 7 pounds, in a patient aged 22 years.

Dr. BRIGGS: Fibroid Induration around a Needle removed from the Left Labium Majus; (2) Early Tubal Pregnancy; and (3) Ovarian Pregnancy.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Lympho-sarcoma of the Lung.—Tuberculin Treatment of Tuberculosis.—Spleno-medullary Leukæmia.—Cerebellar-pontine Cyst.

A MEETING of this section was held on May 17th, Dr. T. P. C. KIRKPATRICK being in the chair.

Dr. JAMES CRAIG read notes on a case of Lympho-sarcoma of the Left Lung and exhibited the specimen. The patient was a man, aged 46 years, who came under Dr. Craig's care on March 12th, 1907. He had orthopnœa, cough, frothy expectoration, œdema of the lower limbs, slight ascites, albuminuria, and systolic aortic murmur. The left lung showed physical signs of complete solidification, with thickened pleura. He died on April 4th. The necropsy showed that a white, opaque, homogeneous, spherical tumour occupied the greater portion of the left lung. Secondary growths were present in the rim of lung tissue which the primary growth had not invaded. Portions of the tumour extended along the course of the left pulmonary veins, the pulmonary artery, and the aorta, so as to appear within the pericardium. The tumour appeared to have started in the bronchial glands and to have spread outwards.

Dr. FRANK J. DUNNE exhibited six cases of Tuberculosis treated by Professor Deny's Tuberculin in the South Dublin Union Hospital. One of the patients was a girl suffering from tuberculous disease of the wrist. The commencing dose of tuberculin administered to her was 5 parts in 1,000,000 and he did not know what would have happened if he had given her the dose of half a milligramme which is recommended in the case of Professor Robert Koch's tuberculin. Tuberculin at present had to be used with very great care and he believed that the ordinary trial doses were too strong. The cases were selected from one-third of the total (150) which he injected.

Dr. A. R PARSONS read a paper on a case of Spleno-medullary Leukæmia which had undergone a very remarkable improvement under treatment with arsenic—improvement both in the size of the spleen and the condition of the blood. In another patient, a woman, 55 years of age, who had been on arsenic for about five months, the treatment had produced diarrhœa and vomiting. She then came to him, and, as the arsenic had caused no improvement, he put her under the x rays. After 20 sittings the spleen commenced to diminish in size and there was also a marked diminution in the white corpuscles. The case therefore proved that the x rays alone could bring about a remarkable improvement.

Dr. HENRY O. DRURY cited the case of a woman who had a much larger spleen than the one described by Dr. Parsons. Every drug treatment was tried without result. Then they tried the x ray treatment alone and the spleen was enormously reduced. Ultimately she died from syncope.

Dr. G. PEACOCKE read notes of a case of Cerebellar-pontine Cyst which occurred in a man, aged 30 years. His symptoms were frontal headache, giddiness and staggering gait, failing sight, and deafness of the left ear. There was no vomiting. Examination showed paralysis of the muscles supplied by the seventh nerve on the left side and loss of sensation on the left side of the face. There was no loss of power or sensation in the legs or arms. The thoracic and abdominal organs were healthy. Examination of the eye showed optic neuritis, with small hæmorrhages and a white patch in the neighbourhood of the optic disc. There was no elevation of temperature and the pulse was normal. The patient died quite suddenly about six months after the first onset of symptoms. The necropsy showed a cystic growth involving both cerebellum and pons on the left side.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—Discussion on the Report of the Rotunda Hospital.

A MEETING of this section was held on May 24th, Dr. R. D. PUREFOY, the President of the section, being in the chair.

Dr. HENRY JELLETT exhibited the following specimens: (1) A Uterus and Upper two-thirds of Vagina removed by Werder's method for cancer of the vagina; and (2) the remainder of the Vagina and the Inguinal Glands from the same case. He said that cancer of the vagina was a very rare condition. The patient was 39 years of age. She made a favourable recovery.—Mr. E. HASTINGS TWEEDY said that it appeared to him, from the description, to be a case of malignant disease of the vagina pure and simple; he was therefore anxious to know why Dr. Jellett considered the removal of the uterus necessary.

Dr. ROBERT J. ROWLETTE said that on first examining the vagina he had little doubt that he would find adeno-carcinoma of the body of the uterus, but on cutting the uterus and finding no primary focus of the disease he had, he thought, to conclude that it was primary in the vagina. It was possible that it was an adeno-carcinoma originating in Wolffian remains, or it might be an endothelioma.

Dr. JELLETT, in reply, said that the uterus was removed both because he believed the case to be one of intra-cervical carcinoma extending into the vagina, and because in any case of vaginal carcinoma, if the entire vagina had to be removed, it was necessary also to remove the uterus.

The adjourned discussion on the Report of the Rotunda Hospital for the Year 1905–06, by Mr. E. Hastings Tweedy, the master of the hospital, was then resumed.—Dr. JELLETT referred at some length to a case of concealed accidental hæmorrhage to which he had been called from the Rotunda Hospital some ten years before. He performed Porro's operation and found the placenta floating about in the uterus, which was full of blood. At a subsequent discussion his treatment was objected to on the ground that a large number of cases of concealed accidental hæmorrhage had been successfully treated by other means. If that were so, then Porro's operation was unjustifiable. Mr. Tweedy stated that the case in the report was the first case which he had ever seen and he (Dr. Jellett) had made out some statistics on the matter which showed that up to the year 1896 only five cases had occurred amongst 43,000 patients in the practice of the Rotunda Hospital. Mr. Tweedy's statement that such cases were of extreme rarity was therefore perfectly correct. Mr. Tweedy had a theory that a plug in the vagina would compress the uterine arteries; that theory was susceptible of proof, as if the uterine arteries were compressed the child would die, and that the child did not always die was proved by a case in Mr. Tweedy's present report. If a uterus from which no blood was escaping went on increasing in size he thought it was fallacious to suppose that a plug would make any difference, and the only thing that could be said for it was that it might bring on labour. He suggested that the condition was to all intents and purposes identical with that of internal hæmorrhage anywhere else, and consequently the correct treatment was to get to the bleeding point from above or from below and to stop the hæmorrhage at its point of origin.—Professor ALFRED J. SMITH regretted that he could find no advance in the teaching of midwifery in the report; he also regretted that methods of treatment were not set out in greater detail. As a teacher of students he would be glad to know why Mr. Tweedy altered the old-established division of ante-partum hæmorrhage. Again, he thought the results of the standard of morbidity were extremely notable. The Rotunda Hospital estimate made it a remarkably good standard, whereas the British Medical Association standard made it the same as last year. The question of which was the better standard was of importance to anyone estimating statistics. Then in the treatment of abortions it was not stated what kind of active interference was resorted to. He made the criticisms with a view to eliciting greater detail for the benefit of those who, like himself, would turn to it for information and enlightenment.—Sir WILLIAM J. SMYLY said that while he recognised the great difficulty in compiling tables, he agreed with Professor Smith as to the advisability of having more details in regard to interference in abortion, particularly as to the number of cases in which interference was necessary and the nature of the interference. He regarded the introduction of separate cots for infants as a matter of great importance.—Mr. J. SPENCER SHEILL said that it seemed to him peculiar that a patient in a healthy condition could die from labour collapse. The three cases referred to by Mr. Tweedy bore a strong resemblance to each other in respect of causation. He did not think that "shock" was the correct term. If the normal shock of labour acted on a patient in an unhealthy condition it was not the shock that was the primary cause of death. He thought that it would be better to put such cases down as death from unknown causes rather than under the ambiguous term of shock.—Mr. J. S. ASHE said he thought that they could greatly improve their methods of giving morphine salts. There were derivatives of morphine which were not so depressing as the hydrochloride.—The PRESIDENT expressed the opinion that pubiotomy would go a long way to rendering the induction of premature labour unfashionable, but he still thought that cases would be found for a while longer in circumstances which would justify induction.—Mr. HASTINGS TWEEDY, in reply, said that the point which Dr. Jellett had made in regard to concealed accidental hæmorrhage was a particularly good one. If he stopped the hæmorrhage in the uterine arteries the child died because he stopped the blood that went to the placenta, that was an apparently weak point in the theory; but he could say that he had never yet failed to stop hæmorrhage coming through a plug in the vagina, and he had never known of hæmorrhage pouring out over the plug. He had shown over and over again that there was no blood collected in the uterus when once the vagina was plugged. The plugging of the vagina caused a considerable amount of shock to the patient through pressing on the nerves, and he regretted to say that patients often did not get better in spite of the plugging of the vagina even though the hæmorrhage ceased, nor had he ever seen a living child born after plugging the vagina in the manner recommended as treatment for accidental hæmorrhage. As regards the cases of death from labour shock Mr. Sheill would see that Dr. Rowlette could find nothing to account for death, and though some other condition might have produced the shock it was the shock that killed the patient. Sometimes the retention of the placenta gave rise to profound shock quite apart from hæmorrhage.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A meeting of this society was held on May 10th, Dr. R. H. Woods of Dublin, the President, being in the chair.—The President showed a case of Accidental Cut-throat which had healed in such a way that a cicatricial diaphragm had formed from the vertebræ to the epiglottis at the level of the hyoid bone, cutting off all communication between the nose, mouth, and pharynx above and the larynx and œsophagus below. Respiration and feeding had been carried on through an opening in the thyro-hyoid membrane. When first taken to Dr. Woods the patient had not spoken or breathed through her mouth for 15 months. The pharynx above the stricture held a pool of saliva, which could only be emptied by the patient holding her head forward and allowing the fluid to run out. The three difficulties, that of breathing, that of swallowing, and that of the saliva, were solved by dilating a pin-hole opening found in the diaphragm and so providing an air-way, feeding being carried out by a tube inserted into the gullet through the opening in the front of the neck, and the accumulation of saliva being got rid of by a specially constructed cannula which provided a breath-way, while a small "by-pass" connected with an air-pump was attached to the patient's belt, and supplied a means of getting rid of the annoyance experienced from the continual collection in the upper cul-de-sac.—Dr. J. Dundas Grant and Mr. J. Bark expressed their admiration of the exhibitor's ingenuity in solving the difficult problems presented by this case.—Mr. W. Stuart-Low showed a case of Frontal Sinusitis in a girl, a sufferer from epilepsy, in whom no fit had occurred since the operation of opening the sinus had been performed three months previously. At the operation the sinus had been found to be packed with mucous polypi. Both sinuses had been cleared out through one opening by breaking down the intersinusal septum.—Mr. W. J. Chichele Nourse read notes of a Fatal Case of Otitic Cerebral Abscess and Meningitis. The patient, a healthy man, aged 60 years, had suffered from ear-discharge for 12 months. Frequent and transient attacks of earache in the right ear preceded the onset of the fatal illness, which was marked by a rigor. Some days later headache, drowsiness, and delirium appeared. On admission to hospital the patient was semi-comatose. Examining with Siegle's speculum a large piece of cholesteatoma was aspirated from the attic. There was no optic neuritis. Two operations were performed for the relief of the patient's symptoms. At the first, a large temporo-sphenoidal abscess was drained through a fistulous opening in the roof of the mastoid antrum. At the second, the lateral sinus was exposed and examined and the temporo-sphenoidal lobe and the cerebellum were opened into through trephine openings, without, however, altering the course of the illness, which terminated fatally 11 days after the first rigor. The necropsy showed that death had been caused by purulent meningitis.—This being the last meeting of this association as an independent entity, Dr. Dundas Grant read an interesting paper reviewing the history of the society since its establishment in 1888.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on June 7th, Dr. Leonard P. Mark, the President, being in the chair.—Dr. A. W. Addinsell read a paper on Metritis, illustrated by lantern slides and photographs. The paper dealt more particularly with the morbid anatomy and pathology of those cases of metritis considered to be due to chronic infection, especially as a result of gonorrhœa. In the intractable cases marked by severe and exhausting hæmorrhage, hysterectomy was considered to be generally indicated.—The paper was discussed by the President, by Dr. J. A. Mansell Moullin, and by Dr. G. D. Robinson who referred to the good results obtained by curettage followed by the application to the cavity of the uterus of pure nitric acid.—Dr. D. Arthur read a paper on Some Aspects of X Ray Work, also illustrated by lantern slides, and spoke in detail of the diagnostic value of skiagraphy in thoracic diseases, insisting on the significance of difference between the diaphragmatic excursions on the two sides, as shown by the use of the screen, in those cases of early pulmonary tuberculosis in which no apical deposit could be demonstrated. Dr. Arthur also explained the method of taking ortho-diascopic tracings, and pointed out its extreme value in enabling the localisation of intra-thoracic conditions such as abscess or tumour. An interesting account was also given of the manner in which different positions were assumed by the heart in certain circumstances of disease.—A discussion followed, in which Dr. A. J. Rice Oxley and Mr. W. McAdam Eccles took part.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—The annual meeting of this society was held on May 30th, Dr. W. C. Chaffey, the President, being in the chair. For the ensuing year Mr. H. H. Taylor was elected President; Dr. Chaffey and Mr. J. Turton, Vice-Presidents; Dr. W. A. Hollis, treasurer; Dr. R. J. Ryle, honorary librarian; Dr. C. H. Benham, Dr. P. S. Eves, Dr. W. Watson Griffin, Dr. E. Hobhouse, Mr. R. F. Jowers, Dr. F. J. Paley, Dr. L. A. Parry, and Mr. H. Stott members of the council; and Dr. Walter Broadbent and Mr. W. A. Bowring, honorary secretaries.

Reviews and Notices of Books.

Metabolism and Practical Medicine. By Professor CARL VON NOORDEN of Vienna. Vol. I.: The Physiology of Metabolism, by ADOLF MAGNUS-LEVY (Berlin), pp. 452. Vol. II.: The Pathology of Metabolism, by VON NOORDEN, KRAUS, SCHMIDT, WEINTRAUD, MATTHES, and STRAUSS, pp. 525. (Vol. III. not yet received.) Issued under the editorship of I. WALKER HALL, M.D. Vict. London: William Heinemann. 1907. Price of the three volumes £2 12*s*. 6*d*. net.

THIS is a translation of the second edition of von Noorden's well-known "Text-book of Metabolism" with some additions to the German text and enlargement of the bibliography by the inclusion of recent English, American, and other papers. It may be said that until comparatively lately the scientific examination of the processes of metabolism was almost confined to German, French, and Italian investigators, but within the last 20 years English and American workers have contributed largely to this branch of scientific medicine.

Perhaps the scope of the first volume will be best understood by giving the titles of its main chapters: I., Foodstuffs; II., Digestion and Absorption; III., Fate of the Foodstuffs in the Tissues; and IV., Metabolism in Man under the following heads: Total Energy Exchange, Nitrogenous Metabolism, Influence of Muscular Work upon Metabolism, Influence of Sexual Processes, the Rôle of Water, Mineral Substances, and Metabolism in Old Age. The translation has been done by several workers, but surely A. "Oberndorfer," one of the translators, is a misprint for Oberdorfer. In Chapter I. we find (p. 3) the following: "The fats and proteins are partly vegetable and partly mineral"—mineral is obviously a mistake for animal. In the discussion on the constitution of the protein molecules, which differ so much amongst themselves, reference is made to the striking fact discovered by Fischer and his pupils that leucin occurs to the amount of from 20 to 29 per cent. in casein and globin, while tyrosin is at most from 1 to 4·5 per cent. In globin 10·96 per cent. consists of histidin.

The chapters on foodstuffs and digestion and absorption (pp. 64) give a general review of these subjects. More interesting, however, is the third chapter which deals with the fate of foods inside the body. It used to be taught that the "purpose" of the splitting up of protein in the intestine was to make it soluble and capable of being absorbed. Its "significance," however, is that it enables the albumin of the food to be changed into the albumin of the tissues, and as these two forms differ in both the number and the combination of their C-containing nuclei a more or less extensive preliminary decomposition is inevitable. The recent investigations show that it is not peptones and albumoses but the products of a more advanced splitting up of the protein molecule which are the "building stones" from which the proteins of the tissues are reconstructed. The reconstruction probably does not take place in the intestinal wall, as was supposed by Neumeister and Hofmeister, because this tissue alone caused peptone to vanish. Since Cohnheim has proved that the peptones vanish, not because they are built up, but because they are broken down, it is doubtful if the synthesis—as is the case with fats—takes place in the intestinal wall and the question arises, Are the tissue proteins built up from the fragments of the protein molecules in the blood by the various organs of the body? This supposition is by no means indispensable, for the organism is certainly able to convert specific proteins of the organs into other kinds and therefore would be able to build up organ-protein out of neutral protein present in the blood. This is the case in the growth of the present in the blood. This is the case in the growth of the sexual organs at the expense of the vanishing lateral muscles in the fasting salmon. Thus the organism is able to interchange the proteins of its tissues. On this view the intestine would hand on half-manufactured stuff made out of the raw material which it receives but the organs would perfect the work and produce the finished article.

When we come to the forces that decompose proteins in the animal body recent investigations have shown that in almost every organ there exist specific ferments which act on proteins and others on fats and carbohydrates. Salkowski was the first to recognise the intracellular operation of ferments like pepsin or trypsin—a process now known as "auto-digestion" or "autolysis." These ferments do not originate in the alimentary canal. Round this question hangs that of the splitting off of ammonia and urea formation. The view long held that fat comes from protein owing to "fatty degeneration" is a view that it seems must now be discarded. There is an excellent chapter on Uric Acid and Purin Bases, dealing with these bodies in their chemical and in their physiological and pathological relations. The metabolism of fats and carbohydrates is fully considered, but perhaps to the physician the discussion on acetone bodies will prove of interest owing to the frequent occurrence of these substances in certain diseases. In acetonuria the source of the acetone is not the carbohydrates. Many additional references to this subject will be found in Vol. II. When we come to the energy side of the problem we find many excellent chapters. Zuntz gives valuable hints as to cycling for invalids: "As the feeling of fatigue is much less in cycling for a given amount of work than it is in walking there is much greater danger of overstrain in the case of the former than in other forms of exercise. This is true for a healthy person and much more so for an individual suffering from cardiac or pulmonary disease." Medical men will be interested in the chapters on Gaseous Exchanges, more especially on the Therapeutic Applications of Oxygen (Vol. I., p. 257), and that on the Lower Limits of Protein Intake, which includes a survey of the recent experiments of Chittenden. The remarks on massage and metabolism will also be read with advantage: "The direct effect of massage has been extraordinarily over-estimated." The metabolism during pregnancy and lactation is very fully dealt with. Not the least interesting chapters are those on water, salts, and old age.

The second volume is one that will undoubtedly attract the attention of the practitioner of medicine. To show its scope and interest we mention its leading contents: Hunger and Chronic Starvation and Overfeeding (C. von Noorden, pp. 1–69), Fever and Infection (F. Kraus, pp. 90–167), Diseases of the Stomach and Intestines (A. Schmidt, pp. 169–211), Diseases of the Liver (W. Weintraud, pp. 229–96), Diseases of Respiration and Circulation (M. Matthes, pp. 304–39), Diseases of the Blood (H. Strauss, pp. 350–420), and Diseases of the Kidneys (C. von Noorden, pp. 433–510). This is really an account of metabolism of diseased conditions, such as gives the reader an insight into the secret processes going on under the most diverse conditions. The practitioner must not look for the treatment of the corresponding diseases, for of that there is none. The results set forth if carefully studied will give him an insight into the processes that are going on in his patients and will lead him to attach more importance to certain symptoms both from a diagnostic and prognostic point of view. Where all is so excellently well set forth it is difficult to select a chapter for comment. The one on Fever and Infection strikes us as particularly thoughtful and suggestive, and though the two subjects are allied yet different it is well that the resemblances and differences should be set forth. This chapter should be read by every practitioner of medicine.

We have said enough to show how attractive is the whole subject and how well it is set forth, with a wealth of detail both of physiological and of pathological facts. Indeed, teachers of physiology, as well as of pathology and medicine, would do well to study it carefully, for in the end what is the pathology of metabolism but a variation of physiological metabolism. No sharp line divides them. The literature is particularly copious, but we are struck by the fact that in some subjects the data given reach only to 1895 or even 1886. Another remark, and that is the paucity of references to English names. It may be that English and American writers have not worked at these subjects.

Dr. Walker Hall and his collaborators have done good service in presenting this work in its English garb. We wish it every success and we feel sure that those who read and study it will not only profit thereby but they will get new inspiration for the study of those diseases which they may be called on to treat. Such a work forms a true basis for the philosophic study of the over-active exchanges and the varied phenomena—both those of matter and energy—which accompany the metabolic processes in health and disease.

Tropical Medicine, with Special Reference to the West Indies, Central America, Hawaii, and the Philippines, including a General Consideration of Tropical Hygiene. By THOMAS W. JACKSON, M.D., Lecturer on Tropical Medicine, Jefferson Medical College, Philadelphia. With 106 Illustrations. London: Rebman, Limited. 1907. Pp. 536. Price 17s. net.

WE welcome this contribution to tropical medicine, coming as it does from America, for although the English, German, and French authorities have given us excellent text-books on the subject, we have had none up to the present time from America. The author in his preface draws attention to the claims of tropical medicine upon American interests and shows how, without volition on their part, the American people have become responsible for the government and education of millions of men and women in distant parts of the world, including in them the tropical regions.

He first gives a lucid introduction and a general consideration of tropical hygiene. Under this heading he notes the facts as regards personal cleanliness and here we regret to notice that he does not warn his readers against the use of the cold bath, which, in India at least, is a sure means of exciting congestion of the liver, so much so that cold water bathing is practically non-existent. The subject of appropriate and nourishing food and of suitable clothing is next considered, and here again we find no mention of the importance of a red lining to a helmet to ward off heat-stroke. Exercise, rest, and the avoidance of heat and exhaustion are then considered. The measures of protection against infection are fully entered into as regards water, food, clothing, contagion, and the bites of insects and vermin. The account of mosquitoes is full enough for all practical purposes.

The author proceeds to describe the various diseases met with in the tropics which he classifies under the three heads of (1) systemic diseases; (2) animal parasitic diseases; and (3) diseases of undetermined or uncertain causation, local and constitutional, and skin diseases. The first disease treated of is cholera; the account of the symptoms given is excellent. We note, however, that Dr. Jackson holds that leucocytosis or its absence has no diagnostic or prognostic value in the disease. This is quite contrary to what has been found in India, where, as pointed out by Major Leonard Rogers, I.M.S., leucocytosis has a significance in that, well marked as it is in the disease generally, it is most marked in the severest and most fatal cases. With regard to the treatment, his experience fully bears out the opinion of Mr. Haffkine on the value of inoculation. The author does not mention the evacuant plan of the late Sir George Johnson or allude to his lucid theory of collapse. Beri-beri is next dealt with, and the clear classification of Dr. Hamilton Wright, who has done so much good work with regard to this affection, is followed. The author thinks the ultimate cause is a microbic organism gaining entrance into the body usually by the alimentary tract but also by the inspired air or through a lesion of the skin. The convincing experiment instituted by Baron Takaki concerning one method of the causation of beri beri is detailed. In the treatment due attention is drawn to the management of the cardiac crises that are so likely to arise.

Plague is the next subject which is dealt with in this work. Here the recent reports of Professor W. J. R. Simpson are alluded to, as well as the important facts which these reports brought out. Attention is directed to the conveyance of infection by the healthy through the medium of infected clothing, whilst emphasis is placed on the part played by infected rats. The questions of serum therapy and of the treatment by large doses of carbolic acid, as instituted by Dr. J. C. Thomson, receive due attention. Dengue is then described and after this the important subject of tropical dysentery receives attention. With reference to amœbic dysentery, we are glad to see that the author does not give this title as synonymous with tropical dysentery for he shows that tropical also embraces bacterial dysentery. In the description of this form of the disease, otherwise fairly complete, we fail to find any account of Major Rogers's important post-mortem findings which certainly differ from those of bacterial dysentery in a remarkable manner. Dr. Jackson's opinion of the treatment of amœbic dysentery with massive doses of ipecacuanha is that it is of no value. In the consideration of the subject of amœbic abscess of the liver the author details Mr. J. Cantlie's valuable researches as regards the depth to which the trocar may puncture the organ without damage to the vena cava. In the section on bacillary dysentery Shiga's well-known researches are given. In the treatment of this form the author does not speak in favour of ipecacuanha but recommends the administration of salines with the use of intestinal antiseptics, thereby giving a fresh instance as to the manner in which the treatment of dysentery varies with the special locality in which the disease is rife.

Space forbids us to deal adequately with all the subjects mentioned in this valuable work. The chapter on leprosy is illustrated by some excellent drawings and we are glad to see Radcliffe Crocker's treatment with injections of sozoiodol —not bichloride as in the text—of mercury mentioned. The chapters on malarial and Malta fevers are both excellent; the latter is fully up to date, the facts concerning the part played by goat's milk being mentioned. Yellow fever, knowledge of the correct etiology of which disease we owe to the American physicians, is well described. The diseases due to animal parasites receive their due attention, as do those of undetermined or uncertain causation and skin diseases. We heartily congratulate the author on the production of this work.

High-Frequency Currents. By H. EVELYN CROOK, M.D., B.S. Lond., F.R.C.S. Eng., formerly Assistant in the Electro-therapeutical Department, West London Hospital, &c. London: Baillière, Tindall, and Cox. 1906. Pp. 206. Price 7*s.* 6*d.* net.

WE welcome this contribution to the study of high-frequency currents and we think that it may be said to be the best work on the subject by a British author up to the present. While the book is well arranged a good deal of the matter in the preliminary chapters might have been omitted, as it is a fair inference that the person about to study high-frequency phenomena is already conversant with the elementary principles of electricity. The work may be said to begin at the commencement of Chapter VIII., in which the author deals with the physical properties of high-frequency electricity. A separate chapter is devoted to each of various classes of phenomena and these are followed by two chapters describing the different methods by which this form of electricity is applied for purposes of treatment. In Part II. are seven chapters, each of which is devoted to the consideration of effects produced on the different systems of the body, as also on heat production and on micro-organisms. The author has carefully summarised in this section all the information so far available and it is expressed in a very lucid and concise manner and the same remark applies to Part III. which deals with therapeutic applications.

We must confess to a sense of disappointment in that the author has given so little of his own personal observations and experiences. As a matter of fact, the two most important of the three sections of the book are made up almost entirely of the experiences of other investigators and for this reason it is to be regarded as an excellent compilation rather than as an original contribution. At the same time the work is a valuable one and should be in the hands of everyone seriously interested in the subject.

LIBRARY TABLE.

The Practical Medicine Series. Comprising ten volumes on the year's progress in Medicine and Surgery. General Editor: GUSTAVUS P. HEAD, M.D. Vol. I.: General Medicine, edited by FRANK BILLINGS, M.S., M.D., and J. H. SALISBURY, A.M., M.D. Series 1907. Chicago: The Year-Book Publishers. (Sole Agents for United Kingdom: G. Gillies and Co., Glasgow.) Pp. 364. Price 5*s.* net. (Complete series of ten volumes per annum £2 2*s.* net).—The scope of this year-book is somewhat more ambitious than that of others of its class, as in the ten annual volumes not only do the chief new methods of treatment and diagnosis come under review but the editors also include a good deal of old teaching that has been recently re-stated; this plan has its own merits but it renders the task of selection more difficult. As an example, many will find fault with the judgment that helped to perpetuate the old fallacy that the limit of percussion dulness of a normal heart does not extend beyond the right margin of the sternum. The book, however, does contain some valuable information and has evidently been carefully compiled. We understand that general medicine will be further considered in a supplementary volume. The present one contains over 100 pages about tuberculosis, in which all the heads of that complex subject are touched upon; then follows a chapter on diseases of the respiratory system. Under Pneumonia there is an editorial note deprecating the attempt to abort the disease by drugs, *pace* the enormous doses of quinine and iron advocated by Galbraith on the next page; the vexed question of alcohol in the treatment of this disease receives no editorial verdict. Diseases of the heart and blood-vessels are treated in 120 pages and form a very useful section; interesting observations on cardiac dynamics, and on such rare conditions as Stokes-Adams disease are recorded. In this respect (p. 204) an unfortunate misprint reads "interarticular" for "interauricular" septum. The present interest in blood pressure finds adequate expression, and diseases of the blood are also noticed. Acute rheumatism is rightly classed amongst the general infections and Poynton's and Paine's experiments towards establishing the specific claims of the rheumatic diplococcus are recorded. The book concludes with an account of recent work on certain general disorders and on diseases of the kidney in which the significance of albuminuria and variations in the salts content of the urine are discussed by various authorities. Throughout the book quotation is made from a great variety of sources and it is one that the busy practitioner may well find of use in his practical work no less than in his education in recent theory.

Our Sons: Their Start in Life. Reprinted from *The Guardian*. Second edition. London: *The Guardian* Office. Pp. 122. Price 2s. 6d. net.—This is a useful little book containing a series of articles on schools, the universities, the navy, army, and civil services, the medical and legal professions, engineering, surveying, farming, "the City" occupations, and secretarial work, and also on the various callings open to women. It contains in a handy form information as to the various means of entering these professions, the cost of training for them, and a brief discussion of their advantages. In discussing medicine we think that the author would have done well to lay more stress on the advantages of every student at least trying for a medical degree. Some men certainly do not realise this fact until, for various reasons, it is too late for them to take a matriculation examination. The total expense for the five years for "education, examination fees, books, and instruments" is set down at about £230. To many this will seem a low figure but a brief computation assures us that it is not unreasonable, although £250 would be nearer the mark for most men. The London medical student will be pleased to hear that in the author's opinion it is necessary "to utter a word of protest against the common idea of his personality. At times he shows the exuberance of spirits which is not surprising or reprehensible at his time of life, but even then he does not forget that he is a gentleman. He works hard and steadily." There are brief notes on the profession of medicine and nursing as occupations for women.

Crutches to Help Cripple Children.—We have received from Messrs. Bemrose a copy of a publication issued by them, entitled "Crutches to Help Cripple Children." In a covering letter they state that it is sent at the request of the Lord Mayor of London in aid of his lordship's Cripples' Fund. They further ask us to draw attention to the publication and this we have great pleasure in doing, for the helping of cripple children is a most worthy object. Criticism of the writers and artists who have contributed to the publication is not necessary in this place. All kind-hearted people will be grateful to those who have so contributed. But on p. 47 we notice a flaming advertisement from the person who calls himself "Dr." Bodie. He now runs an Electric Drug Company and boasts of having cured "hundreds of hopeless cases of paralysis discharged from the leading London and provincial hospitals." This statement in itself should have been sufficient to prove to the advertisement manager of "Crutches to Help Cripple Children" that he was accepting the money of a quack and in so doing by no means serving the true interests of a publication intended to enlist sympathy for what is a most deserving charity.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—In an article on exophthalmic goitre in the May number of this journal Sir J. Halliday Croom concludes that the influence of pregnancy on this disease is very uncertain but tends to aggravate it; nevertheless, the subjects of Graves's disease need not be precluded from marrying or from becoming pregnant. Incidentally he quotes the opinion of Dr. T. D. Luke that exophthalmic goitre is one of the most dangerous conditions for the administration of a general anæsthetic. Mr. George A. Peters discusses the treatment of gall-stones in the gall-bladder and cystic duct and the indications for the different methods of procedure, and Dr. J. Eason writes on phagocytosis of erythrocytes in paroxysmal hæmoglobinuria. Dr. Ian Struthers Stewart and Dr. C. L. Peel Ritchie in a joint paper maintain that a negative phase in the opsonic index produced by injection of tuberculin is evidence of the existence of tuberculosis and that the absence of such a fall in the index shows freedom from the infection.

The Dublin Journal of Medical Science.—In the May number of this magazine Dr. G. A. Gibson continues his review of the debt which we owe to Ireland with regard to the study of the circulation. Dr. J. Magee Finny records a case of maniacal chorea—one of the rarest of diseases, which is scarcely noticed in many text-books of medicine. The affection was apparently of rheumatic origin in this case but after death no organisms could be cultivated from the blood. The mental condition was maniacal in type, with delusions, hallucinations, and finally a semi-comatose state. In a short note on the detection of organic poisons in animal matter Mr. Marius Esposito revives a method proposed by Flandin in 1853—the substance being dried with quick-lime, powdered, and extracted with boiling absolute alcohol—which he believes is capable of giving good results.

The Medical Chronicle.—A Presidential Address on the Diagnosis of Early Pulmonary Tuberculosis delivered by Dr. S. Moritz before the Manchester Medical Society and published in the May issue of this magazine is notable for the review which it contains of some of the modern laboratory methods of diagnosis of this disease. Dr. Moritz speaks hopefully of the method of serum diagnosis introduced by Arloing and Courmont but is inclined to regard the injection of tuberculin as dangerous and places no faith in the opsonic index or its variation after the administration of tuberculin as a diagnostic sign. He concludes that repeated examinations may be needed to establish the presence or absence of tuberculosis. Dr. Gordon O. Lambert contributes an abstract of a thesis dealing with the effects of fever on the myocardium but the summary is so brief as to be rather unsatisfying.

The Birmingham Medical Review.—Of the problems which the x rays are called upon to solve, that of the presence of calculi is one of the most common. In an interesting article in the April number of this review Mr. J. Hall-Edwards discusses the present state of our knowledge in this field, and concludes that little help is obtainable in the diagnosis of gall-stones or of pancreatic calculi, while it is not often that prostatic concretions will be thus revealed. In the case of renal stones reasonable certainty can be obtained with skill and care. He discusses the methods adopted by different observers to obtain accuracy in this connexion. Dr. G. P. Mills traces a connexion between excretion of purin bodies and some irregular rheumatic conditions, and Dr. W. A. Potts discusses some cases of hæmorrhage met with in obstetric practice.

MEDICAL GOLFERS AT ASHFORD MANOR.—A team of medical golfers played the Bar Golfing Society at Ashford Manor on June 1st. The singles ended in a tie but the barristers won the foursomes and the match by five matches to four.

SINGLES.

Barristers.	Matches.	Medical men.	Matches.
Mr. Bernard Darwin	0	Mr. G. R. Girdlestone	0
Mr. J. Crabb Watt	1	Dr. W. G. Howarth	0
Mr. D. D. Robertson	0	Dr. H. J. F. Simson	1
Mr. T. Simpson	0	Dr. A. H. Vassie	1
Mr. L. Mossop	1	Dr. J. Curtis Webb	0
Mr. G. R. Venables	0	Dr. H. P. Hawkins	1
Mr. L. Davis	0	Dr. Chittenden	0
Mr. Montagu Shearman, K.C.	1	Dr. H. Low	0
Total	3	Total	3

FOURSOMES.

Barristers.	Matches.	Medical men.	Matches
Mr. Darwin and Mr. Watt ...	0	Mr. Girdlestone and Dr. Howarth	1
Mr. Robertson and Mr. Simson	1	Dr. Simson and Dr. Vassie	0
Mr. Mossop and Mr. Venables	0	Dr. Webb and Dr. Hawkins	0
Mr. Davis and Mr. Shearman	1	Dr. Chittenden and Dr. Low	0
Total	2	Total	1

Aggregate—Barristers, 5; Medical men, 4.

THE LANCET.

LONDON: SATURDAY, JUNE 15, 1907.

The Orations before the American Medical Association.

THE orations delivered at the fifty-eighth annual session of the American Medical Association held at Atlantic City from June 4th to 7th were such as to appeal to a very high tone alike of scientific and of professional thought, and to display a complete recognition both of the true foundations of medical activity and of the directions in which that activity may most usefully be exerted. In one important particular, at least, our transatlantic brethren have made advances which it is difficult for us to contemplate without some tincture of envy, for they have succeeded, almost completely in Pennsylvania and in varying degrees in other States and Territories of the Union, in placing public health under the effective protection of competent authority and in rescuing it from the clutches of the ignorance, official or non-official, which in this country is so constantly permitted to prohibit or to impede the due application of knowledge. Dr. SAMUEL G. DIXON, "Commissioner of Health of the Commonwealth of Pennsylvania," took as his subject, "Law the Foundation of State Medicine," and was able to describe "the most comprehensive and effective legislation for the protection of the public health ever enacted," and to say that, "armed with these strong and well-conceived laws," the administrators of the State had been able to accomplish certain definite results which had attracted the attention of sanitary reformers in all parts of the Union. The first and most important step in the indicated direction appears to have been the establishment of the office which Dr. DIXON holds, that of "Commissioner" or official head of a State board of health, with a seat in the Governor's cabinet, and with large executive powers. Among these a chief place must be accorded to a very complete system of control over the water-supply of the State, a system under which no new waterworks, no addition to works already existing, and no new system of sewerage or modification of an existing system, may be made without a permit from the Commissioner, a permit only to be granted after minute inquiry into existing conditions and into the nature and probable effects of the changes proposed. The prevention of the fouling of existing streams or gathering grounds is also among his duties, and the Board over which he presides has obtained State legislation for the immediate registration of births and deaths, for the notification of infectious diseases, for the gratuitous supply of antitoxin, and for the appointment of State health officers and county medical inspectors. A considerable freedom of local self-government has been preserved, but with the provision that if the Commissioner finds the sanitary administration of any municipality so faulty as to be a source of danger to the public he is authorised to step in and to assume complete control. Where our Local Government Board can only describe and recommend the Commissioner of Pennsylvania can take any action which the circumstances may require. The result is a "State system of sanitary administration, complete and symmetrical, its head at the seat of power in the State, untrammelled in the exercise of authority, reaching down through the subdivisions of county and township to the people, and in daily touch with every nook and corner of the State through its faithful allies, the physicians of the commonwealth." Dr. DIXON rightly admits that if this system should fail to accomplish great things for the health and happiness of the people the failure will be the result, not of the system, but of incompetence in its administrator.

If we compare the Pennsylvanian legislation as thus described by its official head with the state of things obtaining among ourselves, it is impossible not to be impressed by the complete difference not only in point of detail, but also, and even more remarkably, in principle. Pennsylvania regards sanitary administration as a department of government which is not only of the first necessity but which can only be conducted by the aid of knowledge; while the British Parliament has virtually decided that it is comparatively unimportant, that knowledge is unnecessary for its control, and that residence in the locality is the essential qualification. SMITH may be as ignorant as a horse of everything relating to the causation or prevention of disease, or he may have a direct pecuniary interest in the maintenance of some insanitary condition; but if JONES and ROBINSON, who are as ignorant and possibly as corrupt as himself, choose to select him as their representative on the local "authority," whatever it may be, there is no appeal from his ignorance or his ill-doing. Typhoid fever and diphtheria may prevail in his district, and the local schools may become institutions for the diffusion of epidemics; but SMITH, like MILTON'S Chaos,

> "Umpire sits,
> And by decision more embroils the fray."

The Local Government Board may send down inspectors to inspect and the inspectors may report and may recommend, but SMITH remains master of the situation and nothing can disturb him if only JONES and ROBINSON are true to their allegiance at the next municipal election. Dr. DIXON truly declares that "on State medicine depends the happiness of our people and the success of our nation. The industries on which we depend for our comforts, the wealth which enables us to enjoy them, and the arts which adorn and diversify our lives, are but the fruitage of the tree whose root is health." He draws a vivid picture of the applied sanitary science which enabled the Japanese to conduct on a gigantic scale and under the most adverse conditions a war in which the deaths and disabilities from disease were actually less than those from wounds, in which indeed the mortality from general causes scarcely exceeded that of the ordinary conditions of life; and he contrasts this with the fact that America, from mere impatience or neglect of laws with which she was well acquainted, "lost manyfold more of her brave troops on her own soil by preventable disease than by shot and shell at the seat of hostilities." Finally, he fully recognises that during conditions of ordinarily good public health the majority of mankind are neither wise enough voluntarily to submit themselves to the requirements of sanitary law nor righteous enough to be willing to exercise self-denial in order to save others from sickness, suffering, and death. He holds law and its enforcement to be necessary and urges that what is necessary for the State must, in order to be fully effectual, be extended to the Union. In no other way, he declares, can the health of a nation be preserved or the degeneracy of a people be prevented.

We have left ourselves but little space in which to notice the presidential address of Dr. JOSEPH D. BRYANT or the oration corresponding to the "Address in Medicine" at a meeting of the British Medical Association which was delivered by Dr. JAMES B. HERRICK of Chicago on the Relation of the Clinical Laboratory to the Practitioner of Medicine. Dr. HERRICK believes, what we think is to some extent true of this country as well as of others, that there is a tendency unduly to exalt the importance and the conclusiveness of the work of the clinical laboratory as compared with the results of careful observation at the bedside; and the essence of his learned and thoughtful address is an endeavour, without in any way minimising the former, to maintain the essential importance of the latter. The influence of the laboratory is but an extension of that which has been exerted for many years by the invention of continuously improving instruments of research, which, when they have not opened entirely new ground, have sometimes been conducive to undue neglect of older methods of examination and, what is of even more importance, to loss of the skill which those older methods had required and had tended to develop in those who followed them. There can be very little doubt, for example, that the facile application of the clinical thermometer has diminished the watchfulness of the average practitioner over variations of a less tangible and less easily ascertainable kind; or that the use of the sphygmometer, while increasing the knowledge of careful students of the character and variations of the pulse, might tend to diminish the *tactus eruditus* by which the physicians of an earlier generation strove against the difficulties of interpretation presented by what CELSUS called the *res fallacissima*. Precisely in proportion to the value of any method of laboratory diagnosis will be its liability to lead to erroneous conclusions in comparatively unskilled or careless hands; and Dr. HERRICK forcibly maintains that diagnosis should rest upon a due balance between clinical and laboratory observations, neither series being considered without reference to the other and each contributing its due quota to the conclusion. It is, after all, to the aggregation of phenomena—that is to say, to the sick man himself—that the attention of the practitioner should be primarily directed; and the proper function of the chemist, the bacteriologist, or the histologist is to determine the value of some portion only of the whole. The laboratory conclusions of to-day are not always confirmed by the labours of to-morrow; and it may, perhaps, be said of them, in their relation to medical practice, that, like literature, they are better calculated to furnish a walking stick than a crutch.

The presidential address of Dr. BRYANT was concerned, to quote Dr. BRYANT'S own words, with—

> (1) The organising of the medical profession of the country and its potential perplexities; (2) the elevating of the standard of medical education and its possible afflictions; and (3) the urgent demand for trustworthy medicinal means and of sincerer efforts on the part of every physician in securing a betterment of therapeutic methods.

The organising of the medical profession in a vast country like the United States of America is naturally a much more arduous task than in a small and compact country like our own and even among ourselves the unity of the profession is still far from being a fact. Dr. BRYANT is fully alive to the enormous benefits which a national Board of Health would confer, but he is not sanguine about the attainment of this ideal. He is by no means blind to the possibility of a highly organised body developing into a tyranny, but he looks forward to a time

> when, by the aid of Divine Providence, the medical profession of the United States shall have been made into "one compact organisation" and impelled in dutiful desires only by the highest motives of professional purpose and of public welfare, no enlightened opposition will oppose its desires, nor will irrational outcry, nor vagrant motives, find patient listeners or available foothold in the councils of the organisation or in those concerned in the requirements begetting of public confidence and respect.

And surely we, too, may pray for the coming of a similar time as regards our own land.

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The Simultaneous Occurrence of Intra-uterine and Extra-uterine Pregnancy.

THE occurrence of a multiple pregnancy in which one ovum is situated within the uterus and the other external to its cavity is a matter of much importance, not only because of the difficulties attending the diagnosis but also because of the dangers to the mother which accompany this abnormality. With a view to collating our knowledge upon this condition Dr. FR. VON NEUGEBAUER of Warsaw has collected a series of 169 cases from the literature and has added two observed by himself, or a sum total of 171 cases. The results he has embodied in a very valuable monograph[1] in which he sets out fully the conclusions at which he has arrived from his extensive study of the subject. More than half the total number of cases have been published during the last 12 years, no doubt because of their more frequent recognition by operation at the present day. An analysis of the histories given shows that four of the women had previously had twin or triplet pregnancy, while in four of the cases recorded there were three ova present. In three of these instances the twins were found in utero and in one case they were extra-uterine. Two of the patients had already undergone an abdominal section for an extra-uterine gestation. Dr. NEUGEBAUER points out that an examination of the site of the extra-uterine ovum reveals the fact that no less than nine of the cases, or 5·3 per cent., were examples of interstitial pregnancy, while in six the extra-uterine ovum was said to have been situated in the ovary.

The extreme difficulty of diagnosing this condition is shown by the fact that in only seven cases was a correct diagnosis made and confirmed by abdominal section; in eight cases the complication was, however, suspected, while in 21 it was found during delivery, or soon after delivery, that another extra-uterine fœtus was present. In 24 instances the correct solution of the case was only arrived at by a post-mortem examination. The conditions under which a correct diagnosis is most likely to be made are naturally those in which a patient the subject of an intra-uterine pregnancy is suddenly seized with the classical symptoms of the rupture of a tubal gestation. The further the normal pregnancy has progressed the easier will be the diagnosis; the most important point, however, is that the practitioner should bear in mind the possibility of such an occurrence and in all cases of doubt recommend an exploratory laparotomy so as to make certain of the exact state of affairs even at the risk of causing an abortion. In view of the heavy mortality of the children in these cases every care must be taken to safeguard the life of the mother, even at the risk of that of the children, except, of course, in such cases as, for example, one of inoperable carcinoma in which the mother obviously has only a short time to live. If it seems certain that the extra-uterine child is dead then operation may be postponed until after labour has occurred, so long as the ectopic fœtus does not offer any undue difficulty to the completion of delivery. With regard to the results as concerns the children, in 49 cases a living child was born from the uterus, while in no less than four cases a living extra-uterine fœtus was delivered by abdominal section and a child was born alive by the natural passages. Of 154 cases, 54, or 34·6 per cent. of the intra-uterine children, reached full term, and of these 49, or 31·3 per cent., were born alive; of the extra-uterine children, on the other hand, only 32, or 21·4 per cent., reached full term, and of these only 4, or 2·7 per cent., were delivered alive. A very remarkable fact is that in no less than 29 cases both children reached full term, while in one case of a triplet pregnancy, in which two of the children were intra-uterine and one was extra-uterine, this also occurred. Amongst 83 cases in which abdominal section was performed during pregnancy or soon after delivery 17 of the mothers died, or a death-rate of 19 per cent. The importance of treating these cases by abdominal section is seen by the fact that of 87 women operated upon in this way 70, or 80 per cent., recovered, while of 67 not treated by operation no less than 31 died. Unfortunately in most instances the cases have not been reported in sufficient detail to enable the important question to be determined as to whether the two ova were derived from one or from both ovaries. With regard to the etiology of this condition Dr. NEUGEBAUER is inclined to regard the intra-uterine gestation as a predisposing cause and no doubt there are some grounds for this view.

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[1] Zur Lehre von der Zwillingsschwangerschaft mit heterotopem Sitz der Früchte, Fr. von Neugebauer. Leipzig: Klinkardt, 1907.

The most interesting problem connected with these multiple pregnancies is presented by the consideration whether they are examples of the fertilisation of two ova at the same time or of the occurrence of superfœtation. The different degrees of development of the two fœtuses is not of much value as proof one way or the other since it is not at all uncommon to find twin fœtuses differing very markedly in size and in weight. Further than this, it must be borne in mind that the likelihood of an extra-uterine fœtus being poorly developed in any case is very considerable. The case which is most suggestive of the occurrence of superfœtation in this series is one of those recorded by Dr. NEUGEBAUER himself. In this instance, after the death of the patient from internal bleeding, an eight to ten weeks' old fœtus was found in the uterine cavity and a fœtus of 17 days' growth which had apparently died at the time of the mother's death was found outside the uterus. Professor AHLFELD expressed the opinion when the specimen was demonstrated at Cassel in 1903 that it was an example of superfœtation. The frequency with which both fœtuses attain the full term of development possibly may be due, as suggested by Dr. NEUGEBAUER, to the fact that the normal pregnancy with its accompanying increase in the pelvic circulation favours the complete development of the extra-uterine fœtus. The ectopic pregnancy, however, with its numerous possibilities of complications, certainly endangers the life of the intra-uterine ovum. On the other hand, the death of one fœtus by no means certainly entails the death of the other, for CHROBAK extracted by abdominal section a living extra-uterine child five days after the birth of a full-term child, and WILSON did the same thing 26 days after the delivery of a living child from the uterus. It is impossible to over-estimate the danger of this form of multiple pregnancy, and, as Dr. NEUGEBAUER rightly concludes, the only correct line of treatment seems to be to consider the life of the mother alone and to rescue her from her peril by as early abdominal section as possible.

The Surgery of the Brain.

ON the due attention to details success often depends and of no work is this more true than of the work of the surgeon. Especially important is care in details in the surgery of the more vital organs of the body and in cerebral surgery pre-eminently is there the need of the closest attention to small points. Mr. CHARLES A. BALLANCE in his Lettsomian lectures before the Medical Society of London, which have recently been issued in volume form,[1] dealt with some important matters connected with the surgery of the cranial contents and he showed that one great cause of the excellent results of the present day is the advance in recent years of our knowledge of the structure of the brain and its membranes. Even the three lectures which Mr. BALLANCE devoted to the subject did not suffice for more than a brief consideration of many important points in cerebral surgery but on all the subjects on which he touched fresh light was thrown. The cases narrated were especially instructive. In one case, a patient under the care of Dr. JAMES TAYLOR, a man, 34 years of age, had symptoms suggestive of general paralysis and he narrowly escaped being sent to an asylum with that diagnosis. He had sustained an injury to the head, a considerable hæmorrhage had taken place into the arachnoid cavity, and the blood had become encysted and slowly increasing pressure was exerted on the brain. The "cyst," which was seven inches long, four and a half inches wide, and one and a half inches in thickness, was successfully removed and complete recovery ensued. A number of cases of traumatic encephaloceles have been recorded since Mr. R. J. GODLEE first described the condition in 1885 and Mr. BALLANCE relates a very instructive case occurring in a child four years old, an age greater than that at which the condition usually occurs. The child fell about 20 feet. Left hemiplegia was present with complete aphasia and some paresis of the left third nerve and a hernia cerebri developed. After operation the patient made a good recovery, the hernia cerebri soon disappearing, and two years later speech was almost perfect, except for some slurring during excitement; the weakness of the left leg was nearly gone, though the left hand was still paralysed.

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[1] Some Points in the Surgery of the Brain and its Membranes, by Charles A. Ballance, M.V.O., M.S. Lond., F.R.C.S. Eng. 1907. London: Macmillan and Co. Price 16s. net.

Not many years have elapsed since lumbar puncture was first performed but now it has almost taken a place in the routine examination of certain cerebral and spinal cases in which the diagnosis is difficult, such as meningitis, when it is desirable to distinguish between the tuberculous and the non-tuberculous varieties. Lumbar puncture has also been used to a great extent for the purpose of producing what has been called "spinal anæsthesia," and the method has many advantages, though it has also several dangers and difficulties which were unsuspected by its introducers. Mr. BALLANCE has pointed out that lumbar puncture may also prove of value in traumatic lacerations of the substance of the brain when the patient is passing into the stage of cerebral irritation and he gives a very instructive instance. A man, 21 years of age, was thrown from a horse. The skull was not broken but he was unconscious for ten days. The right arm was paralysed and left ophthalmoplegia was present. The unconsciousness passed off but he became restless, irritable, and sleepless. By lumbar puncture from two and a half to three ounces of red-stained cerebro-spinal fluid were drawn off and on each occasion four hours of quiet sleep followed. Thus lumbar puncture may help both in diagnosis and treatment. When blood is poured out between the dura mater and the skull, as in injury to a meningeal artery or a venous sinus, the cerebro-spinal fluid obtained by lumbar puncture is clear and free from blood, but in cases of laceration of the brain substance or hæmorrhage between the dura mater and the brain, the fluid, as in the case related, is stained with blood. The lumbar puncture was also of distinct value in lessening intracranial pressure and so inducing sleep. Mr. BALLANCE is thus led to suggest that it may, perhaps, be advisable in some cases of ordinary apoplexy to relieve by lumbar puncture the pressure of the clot and serum on the nervous centres. We think the suggestion is happy and though it may prove to be of value in only a few cases it might assist in tiding over the time during which the brain is endeavouring to resume its functions. It is possible, too, that lumbar puncture might prove of service in temporarily diminishing intracranial pressure in case of cerebral tumour in which for any reason it is needful to postpone operation for a time. The operative treatment of internal hydrocephalus is also discussed and several cases are detailed in which this condition has been successfully treated, though it is hardly necessary to say that in these cases the mortality is great. Still, the fact that some of these cases recover after operative interference is very encouraging and should stimulate surgeons to persevere in attempting to improve the surgery of the meninges.

The second lecture on abscess of the brain was of great importance but it must yield in interest to the third which dealt with the surgery of tumours of the brain. It is hardly recognised by the general body of medical men how great has been the advance in recent years in this branch of surgery. Not many years have elapsed since the surgery of cerebral tumours began to exist and even now much of the progress that has been made seems to be unknown to a large proportion of the profession. Many of those who listened to that lecture must have been astonished at the enormous advance in this department of surgery. It cannot be denied that even now the mortality is heavy but in this connexion it must not be forgotten that every case, or nearly every case, is affected with a disease which, if left untreated, is certain to prove fatal. In many cases where recovery from the operation occurs the result is perfect and even when complete recovery does not ensue the improvement is often great or the progress of the disease is stayed. Moreover, statistics show clearly that the mortality is steadily decreasing. Our knowledge of cerebral technique is yearly improving; the surgeon can now with impunity undertake operations which would have been beyond his hopes at one time. We have undoubtedly still much to learn. All operative procedures on the brain disturb greatly its circulation and in hardly any other organ in the body is the maintenance of an equable circulation of so much importance. We are learning to know what can and what cannot be done and if the progress in the next ten years is at all on the same scale as that of the preceding decade we shall indeed see enormous progress. The future is full of hope but even the possibilities of the present are not adequately appreciated.

Annotations.

"Ne quid nimis."

THE NATURE OF INFECTIVITY IN RELATION TO TUMOUR GROWTH.

THE problem of the origin of cancer has always had a marvellous fascination for us all, and the theories that are advanced are almost as numerous as the facts on which those theories must be based. The latest contribution to the subject was contained in an address given by Dr. D. A. Welsh, professor of pathology in the University of Sydney, delivered at the First Australian Dental Congress in February last. An abstract of it appeared in our last issue. Mr. H. T. Butlin pointed out in the Bradshaw lecture at the Royal College of Surgeons of England that, whatever may be the ultimate etiology of cancer, as soon as a cancer cell is fully formed it behaves as a parasite. No longer is it obedient to the laws governing the organism in which it appears, no longer does it work for the good of its original owner, but it lives only for itself and, like a parasite, it flourishes at the expense of its host. Dr. Welsh in the address we have mentioned has carried the analogy a little further. He shows that in all tumours, both innocent and malignant, the analogy with infective processes is extremely great. In an infective process caused by bacteria we may in some cases find a merely localised infection which has no, or hardly any, tendency to spread beyond the point first infected. The infective process may, however, tend to spread locally; it infiltrates neighbouring tissues and has no well-defined limits. Other infective processes may be still more widespread. They do not limit themselves to the spot or neighbourhood where the germ first found entrance but by the channel of the lymph or blood stream reach distant parts of the body. To all these varieties tumours present very close analogues. The localised abscess caused by the local infection of a bacterium may be likened to the simple, benign tumour. It has a well-defined wall and it has no tendency to stray beyond the site of its first appearance, though it may increase in bulk. The local infiltration of a septic process bears a very close analogy to some tumours of a certain but slight degree of malignancy which spread locally, infiltrating the neighbouring tissues, but have no tendency to form secondary growths elsewhere. The virulent infective processes of pyæmia and septicæmia are very closely comparable with the very malignant growths which spread far from the original site, attacking distant structures by the medium of the blood and lymph streams. In these cases the "infective" agent is the living cell of the tumour, derived from the body in which it lives and not introduced from without. As to the cause of this suddenly acquired activity on the part of a cell of the body, Dr. Welsh has something more to say. He dismisses the idea of any lowly organism parasitically attacking and entering the cell and so causing it to assume the *rôle* of a cancer cell, and he tells us that the hypothesis has the demerit of being hard to reconcile with some of the known facts of tumour growth, though he does not tell us what these facts are. The theory which he advances is based mainly on the observations of Farmer, Moore, and Walker, that the nuclear divisions observed in some cancer cells are similar to those seen in the reproductive cells and not those which take place in ordinary somatic cells. It is further supported by the observation that some leucocytes have been seen to enter developing cancer cells. These are the foundations of Dr. Welsh's theory. He suggests that the fully developed cancer cell may be the product of the conjugation of a fixed tissue cell and a wandering leucocyte, both cells having undergone the nuclear metamorphoses of reproductive tissue. It has further been shown that developing cells may be induced to undergo increased and abnormal nuclear divisions when the chemical reaction of their environment is altered and especially when the alkalinity of the medium is increased, and there is some evidence that the body fluids of cancer patients commonly exhibit this increased alkalinity, and to this increased alkalinity he looks for the stimulus required. The theory is interesting and would go far to explain many of the phenomena of malignant disease but unfortunately some of its foundations are hardly as firm as could be wished. The work of Farmer, Moore, and Walker on the mitoses of cancer cells was doubtless of great interest but, as we pointed out at the time, its importance could easily be overrated, inasmuch as we were, and are, absolutely in the dark as to the real meaning of the special form of mitosis found in reproductive cells. Moreover, Victor Bonney has clearly shown that "gametoid" mitoses are not specially characteristic of the cells of malignant growths. They occur in perfectly innocent growths, such as the venereal wart. Further, Bashford and Murray have come to the conclusion that the appearances in cancer cells, which were believed to indicate the occurrence of a true "reducing division," i.e., a mode of division resembling that found in reproductive cells, are deceptive, and that the mitoses of cancer cells are really of the ordinary type found in somatic cells. Thus one of the foundation-stones of the theory proves to be incapable of yielding any support and without its aid we fear the theory must come to the ground. All that we know at present is that the forms of cell division in cancer cells are irregular; why or how we cannot explain. Such theories as that put forward by Dr. Welsh are of value in that they incite us to examine afresh the grounds for the opinions which we hold, to test thoroughly the bases on which our theories rest, and to revise from time to time the views which are generally accepted.

LIVINGSTONE COLLEGE.

SITUATED on the borders of Epping Forest at Leyton is a fine old country mansion now known as Livingstone College, which exists for the purpose of giving instruction in the elements of medicine and surgery to men who are already missionaries or who are preparing to become missionaries to isolated posts abroad. The need for some simple teaching that will enable missionaries to take care of their own health in places where medical aid is far distant was the keynote of several speeches made by missionaries at Livingstone College on June 5th, Commemoration Day, when the buildings were thrown open to public inspection. But it is not only the missionaries themselves who receive benefit from the teaching given at this college but also the natives of the country in which they may be working. Of course, it is only the more simple diseases which can be treated, for the course at the college is concluded in nine months, while those who enter for the course are required to sign a declaration that they will not take the title of "medical missionaries" or otherwise assume the position of a qualified medical man. It must be difficult for those who live in civilised countries and are able to call in medical attendance at a moment's notice to realise the position of those who are sick in a strange land far removed from medical aid, but if a man will travel 50 or 70 miles through forest and jungle to have a tooth drawn, as stated by two of the speakers, it is not difficult to imagine the position of one suffering from more serious complaints. In his report the Principal of the college, Dr. C. F. Harford, pointed out that there were on the committees of the college 12 medical men, six of whom had served abroad in connexion with six different missionary societies, so that they claimed to have some knowledge of the needs of the mission field. He claimed that Livingstone College should be supported on ethical, economical, and educational grounds. Ethical, because missionaries going to dangerous and isolated stations ought to be taught to care for their own health as well as to relieve the sufferings of the ignorant natives by whom they might be surrounded. Economical, because he believed that the college training would increase the usefulness of missionaries and save money spent in medical expenses and invaliding. Educational, because he considered that the scientific training was of immense importance to a missionary and prevented him from working in too narrow a groove, and he claimed that missionaries should be able to impart simple instruction in the laws of health to the people amongst whom they might be placed. He pointed out that a considerable proportion of the students at present at the college came from South Africa and from the continent of Europe, and though they were most heartily welcomed he earnestly appealed to the great denominational missionary societies to make more use of the college. There was a deficiency of over £500 in the college accounts and further help was urgently needed in order that the work might be carried on with true efficiency.

A SCHOLARSHIP IN DENTAL MECHANICS.

THE British Dental Association announces the foundation of the "Smith Turner scholarship in dental mechanics" of the annual value of £30. This scholarship is founded in honour of the memory of the late James Smith Turner and has for its object to help those students who, in the opinion of the fund committee, have financial difficulty in completing the dental curriculum. The scholarship is open to any registered dental student who has not completed the curriculum required for a dental qualification, will be awarded after examination, and will be tenable for one or two years at the discretion of the committee. We particularly approve of the very general terms of award. The scholarship money will be paid to any approved dental school in Great Britain and Ireland in discharge of fees, and the examination, which will be both practical and *vivâ voce*, will be held, so far as may be convenient, in rotation in the dental schools of the United Kingdom. The first examination will be held in London at the Royal Dental Hospital, Leicester-square, on April 8th, 1908. Applications must be received on or before March 1st, 1908, addressed to the Honorary Secretary, British Dental Association, 19, Hanover-square, London, W.

THE STREET NEWSVENDOR.

THERE is not much evidence in favour of the view, we are afraid, that personal cleanliness is a particularly jealous precaution taken by the man who sells newspapers in the streets. The calling is not a lucrative one and no doubt these men have a struggle to find sufficient nourishment and clothing for their bodies, in which circumstances it is not surprising that an occasional wash is viewed as a secondary consideration. Their *clientèle* is a very diversified one. The purchaser is now an errand boy, now a clerk, now a professional man, now a person of wealth or may be rank, so that should the newspaper seller's disregard for personal cleanliness amount to an infective process he may be scattering seeds of disease amongst all classes of society. It is somewhat astonishing to find how innocently regarded in general the newspaper is. There is no need to discuss the bacteriology of a newspaper which has come from dirty hands which have wiped soiled faces and which is tainted, it may be, also with the splashings and filth of the streets. The indictment is greatest against the evening papers, for it is chiefly these which are sold in the street. They are taken home to be read by others, they may circulate in the library, dining-room, and drawing-room, or may even be read in bed, notwithstanding the circumstance that the man who sold the paper may be, or is, obviously offensive in regard to his personal habits. This is no figment of the imagination, for we have seen men selling evening newspapers who bore unmistakeable evidence of their disgusting disregard for cleanly conduct. If street newspaper sellers are indispensable, and we do not dispute that they supply a public need, let them be clean in their business and show some attempt to keep and to sell their papers under conditions as cleanly and inoffensive as circumstances will permit. We know instances in which the street newsvendor appears as a perfectly clean respectable person from whom a newspaper may be taken without a shudder, and there should be no reason why such cases should be the exception rather than the rule.

ITALIAN PHYSICIANS ON "ALCOHOL."

"THE correspondence in THE LANCET on the Use of Alcoholic Beverages (writes an Italian contributor) is having its reverberation in the press of Italy, professional and lay. A distinguished consultant of the Piedmontese school is of opinion that neither the uncompromising assailants nor the out-and-out advocates of wine- or spirit-drinking represent the whole truth, which as usual, he thinks, lies between the two. Italians, indeed, scarcely admit, except in few cases, that immoderate consumption of alcohol exists among them. They use it as the better class of the English-speaking world use coffee or tea. Of course, even these beverages may be indulged in to excess; but that does not touch the question, namely, whether such a use of wine as prevails in Italy is not as innocuous, nay, on the whole as beneficial, as the use of tea or coffee prevalent in England. An Italian of the middle class will begin his day (as a rule earlier than in England) with a small cup of coffee and a rusk or bit of dry toast. On the strength of that he will do a good morning's work till about noon, when he will sit down to a *déjeuner à la fourchette*, with hot meat, accompanied with wine, and followed by fresh fruit. That keeps him going through the afternoon till the evening, when he dines, generally on fish and hot meat, and again with wine, followed by fruit, which latter he prefers uncooked, taking with it a little undiluted 'Chianti' or 'Lacrima Christi' on the principle, as he would say, of 'post crudum, nudum.' To accuse him on this regimen of the 'abuse of alcohol' seems to him absurd. He finds it compatible, as generations of his ancestors have found it before him, with the 'vita vitalis' of keen business enterprise or active professional life. He adjusts the quantity of wine which he takes to the benefit that he derives from it, practically admitting that if he exceeds that quantity he will suffer for it, as, according to Dr. King-Chambers in his treatise on 'The Indigestions,' afternoon teas and kettledrums and 'similar sloppy proceedings' used to be responsible for 'half the dyspepsia of the West End.' In his moderate use of Chianti or Lacrima Christi he maintains that he is no more taking 'alcohol' than the Englishman in his use of tea is taking 'theine.' Dr. Guido Fornaseri, in the leading Turinese journal, presses this argument home on the strength of clinical experience, winding up epigrammatically with the verdict of science as condemning 'alcohol' in excess; with 'attenuating circumstances' when it is freely diluted; and with the *benefizio del perdono* (the concession of pardon) when, so diluted, it is taken in moderation."

INFANT MORTALITY AND ITS PREVENTION.

IN an excellent paper read before the sessional meeting of the Royal Sanitary Institute on May 31st Major R. J. Blackham, D.P.H., R.A.M.C., dealt with the problems attending infant mortality both under the conditions of civil and army life. He classed the necessary preventive measures under three heads, those directed towards the mother, those directed towards the child, and those requiring special statutory powers. As regards the mother, he insisted on the extreme importance of educating elder girls in the care of infants and young children to fit them for their future responsibility and quoted a very apposite passage from Herbert Spencer, in which that philosopher maintained that the education of the children of his day was limited to a "curriculum for celibates," a reproach from which we are not yet free. Major Blackham suggested that instruction on these matters should be given under the supervision of medical men and specially trained nurses and that the Royal Sanitary Institute might issue a certificate in infant hygiene to qualify nurses for such appointments. He next pointed out the necessity of the proper care of poor women during and after the puerperium and he showed by a table that the prospect of passing through the first year of life is twice as good for the soldier's infant as for the child of the neighbouring civilian, which was largely attributable to the increased care taken of military mothers; he recommended to civil attention the system adopted by the French Society of Nursing Mothers; the last necessary provision for the mother was "the further supervision of female labour in factories and the prevention of women from engaging in arduous labour during the three months immediately preceding and following parturition." In this respect he recommended the institution of factory crèches as being not only good for the mother and the child but also affording valuable training schools for older girls in infant management. Turning to the measures directly affecting the child he dealt with them under three further heads—the provision of a pure milk for artificial feeding, including the inspection and control of milk from the source to the consumer, the appointment of lady health visitors, and provision for the earlier registration of births. With regard to the first of these he pointed out the excellent example set by France and with regard to the last the lesson taught by the ex-Mayor of Huddersfield's philanthropic experiment. Major Blackham then grouped the new legislation required into three Bills embodying the following measures:—

1. A short Act on the lines of the Roussel law of France, prohibiting (*a*) the use of undigested farinaceous foods for infants less than seven months old; (*b*) the sale of infants' foods which do not bear an analysis on each packet and a certificate from a Government analyst that they are non-injurious; (*c*) the use of feeding bottles with tubes and dummies or infant soothers.

2. An Act amending and consolidating the Infant Life Protection Act of 1897 and the Prevention of Cruelty to Children Act of 1904. This Act would: (*a*) provide for the further protection of children sent out to nurse; every child adopted for lump sum or received for reward, whether alone or with others, would be inspected by Government inspector till it attained the age of seven years; (*b*) prohibit and penalise the leaving of young children alone in circumstances of danger; (*c*) authorize the distribution by registrars of circulars giving advice on the care of children; (*d*) control and vigorously restrict the life insurance of the infants.

3. An Act replacing the present Dairies, Cowsheds, and Milkshops Order of the Local Government Board.

In concluding this valuable paper the writer pointed out the important fact that "the question of infant mortality seems to be one which draws the practitioners of curative and preventive medicine closer together than any other subject." The tables comparing civilian and army infant mortality were striking in showing the increased chance of life of children reared under service conditions.

MEAT, MILK, AND DISEASE.

WE have before us three documents—namely, the report of the medical officer of health of the City of London, Dr. W. Collingridge, for the five weeks ending May 18th; a special report, dated June 1st, to the health committee of the Portsmouth town council by its medical officer of health, Dr. A. Mearns Fraser; and, lastly, a report of a case heard on June 4th at the Mansion House police-court. All these documents deal with diseased meat or milk which is deliberately offered to the public for sale as food for themselves and their children. Dr. Collingridge draws special attention to the very ineffective way in which the laws for the inspection of food products in the United States of America are carried out and he gives two instances. In the one case a forequarter of chilled American beef bearing the inspection label of the United States Department of Agriculture was sent by a firm in Smithfield Market to a customer at Reading. A local inspector there examined the beef and found that although no tuberculous lesions were evident externally, yet the sternal glands into which he cut were diseased. The meat was destroyed with the consent of the owner. Again, on May 5th a quantity of plucks from a box bearing the inspection label of the United States Department of Agriculture were seized as unfit for food. The label was stamped, "Est. no.1 Cancelled." As doubts existed as to what this meant the matter was submitted to the United States Bureau of Animal Industry, which replied explaining the lettering and adding, "There is nothing to indicate that the contents of the box bearing this label was condemned by the United States inspectors." So much for America: now let us look at home. Dr. Fraser calls the attention of his authority to "the menace to health through the systematic trade in diseased animals, principally tubercular cows, that is carried on in country markets near Portsmouth." Dr. Fraser gives a list of animals sold nearly all in Petersfield and Chichester, with their probable destination, which in most cases was London. The list covers the period May 30th, 1906, to May 29th, 1907, and includes 72 cows. The price of these animals varied from 5*s.* to 80*s.*, and many of these, according to Inspector Monckton, the borough inspector, who attended the markets, where, of course, he had no legal *locus standi*, showed "unmistakeably that they were badly affected with tuberculosis." Dr. Fraser's opinion is that the only way of stamping out this trade is the systematic inspection of live-stock. Turn we now from the simple rustic to the town trader. On June 4th, at the Mansion House police-court, Messrs. Field and Co., Limited, fruit merchants, of 10, Monument-street, were summoned before Alderman Sir W. Vaughan Morgan by the Stepney borough council for selling 1290 tins of condensed milk which were unfit for human food. Thomas Palmer, their manager, was summoned for aiding in the offence. A witness named Wear, who had purchased the 1290 tins, and who admitted that he had been proceeded against and fined £30 10*s.*, including costs, for having the stuff in his possession, said that after this prosecution he saw Palmer who advised him not to trouble, "as the matter would blow over and the loss would be made up on another deal"; also "that if he would plead guilty and keep the company's name out of the case they would pay his fine and would recompense him." Mr. Leycester, counsel for the defence, denied the truth of these conversations but admitted that all the tins were bad. He said that the milk had been sold as pig's food, although Wear stated in evidence that he had bought it for human food. In the end the company was fined £25 and £5 5*s.* costs and Palmer a like sum. The trade in diseased meat and putrid milk, to say nothing of adulterated food-stuffs, will never be put an end to until the vendors are treated as the poisoners which they really are.

EPIDEMIC CEREBRO-SPINAL FEVER.

IN a summary of several investigations, chiefly statistical, which he has made on the subject of epidemic cerebro-spinal fever, Dr. A. K. Chalmers, the medical officer of health of Glasgow, states that there is no reason to suppose that food conveys the infection. In fatal cases patches of congestion were found in the intestine, sometimes in the duodenum, but more commonly towards the lower end of the ileum. Temporary diarrhœa sometimes preceded an attack, but efforts to discover the meningococcus in the intestinal discharges or in the bowel wall have not hitherto been successful. Some of the cases suggested that the period of incubation might be less than a day, but, on the other hand, some secondary cases occurred in the second week, and others in the second month after known exposure. Although nasal discharges were from time to time examined the organism was recovered only three times from patients by swabs taken through the anterior nares. It was recovered, however, from the naso-pharynx of four "contacts." Dr. Chalmers remarks that "carrier" cases and spray infection would completely explain the method of spread were the organism recoverable in a larger proportion of "contacts." Among the patients observed in Glasgow mixed infections were rare. In two such cases the meningococcus was associated with the tubercle bacillus in one and with a diplococcus in the other. In 106 examinations, "71 of which were by lumbar puncture after death and 35 were necropsies," the meningococcus was found alone in 71 cases, the pneumococcus alone in two cases, the meningococcus and the pneumococcus together in one case, the tubercle bacillus in four cases, and a *streptococcus* in one case, whilst in 27 the results were entirely negative. With regard to school association, it has to be remarked that the onset of the disease is very sudden and usually prevents school attendance from the beginning. In 38 schools single cases only occurred, in 17 schools there were two cases each, in six schools there were three cases each, and in four schools there were four cases each. In Scotland during the week ended June 8th there were 15 deaths from this cause registered in Glasgow, five in Edinburgh, three in Leith, and one in Paisley. In Glasgow the weekly report issued on June 7th showed that there were at that time 104 cases under treatment. In Belfast during the week ended June 8th ten deaths from this cause were registered.

THE CHILD'S HOLIDAY.

THE health of the little ones who live in the poorer and generally unhealthier areas of our great cities is a matter of the first importance to us all. Not only humanity but self-interest, our interest in our population, insures this. To give these children when living in London a fortnight's holiday in the country does not at once fit them to become either useful workers and desirable members of the community or healthy parents of a new generation, but it affords an admirable stimulus to all manifestations of their physical and moral progress, and therefore the Children's Country Holiday Fund deserves the best support which we can give. Entirely unsectarian in its character, the society year by year extends its good work and is only limited in its operations by the amount of the subscriptions which it receives from the public. From the annual report which has just been issued we learn that during the year 1906 43,442 children were sent to country cottages in the south of England, and the executive of the society expect that during the forthcoming season there will be an even greater demand upon the fund for assistance. When it is remembered that there are more than 800,000 children on the rolls of the London (including West Ham) schools 43,000 appears as but a small proportion to whom to extend the advantages of a visit to the country, particularly when we remember that quite possibly one-half of the elementary school population of London never leave the metropolis for a single night throughout the year unless they happen to be among those selected for a country holiday. The report of the fund, which can be obtained from the secretary, should be read by all who take an interest in what someone has described as "God's problem awaiting man's solution—the little child." Contributions should be sent to the secretary or the treasurer at the central offices of the fund, 18, Buckingham-street, Strand, London, W.C.

RAYNAUD'S DISEASE.

IN the *Western Canada Medical Journal* for April of this year Dr. G. A. Gibson of Edinburgh publishes some interesting observations on Raynaud's disease. He deals only with those cases in which the origin of the symptoms is obviously reflex in character and describes two instances in which the ordinary clinical symptoms of the malady were well marked. They were both men, one being 18 and the other 23 years of age. Ordinary treatment proved of no avail, and as Dr. Gibson considered that the condition might be produced by renal mobility, in each case the operation for fixation of the kidney was performed. In the first case the effect of the operation was remarkable. The patient was kept on his back for a month after its performance, and when he was allowed to get up it was found that all the symptoms of Raynaud's disease had disappeared. Although the weather was still cold, the discolouration of the affected parts of the body had disappeared, and the contraction of the veins never recurred. The result in the second case was equally satisfactory. Dr. Gibson records these cases as excellent illustrations of a variety of Raynaud's disease having its origin in reflex disturbances and falling into the same category as the angina pectoris vaso-motoria of Landois and Nothnagel. It might, of course, be suggested that mobility of the kidney is in itself scarcely sufficient to produce such widespread disturbances as are found in connexion with Raynaud's disease. Dr. Gibson points out, however, that moveable kidney is a fertile source of palpitation and of tachycardia and he believes that there can be no doubt of its power to bring about all the vaso-motor changes which are summed up under the title of Raynaud's disease.

"GREATEST OF THESE."

WE have received a letter from Mr. Sigismund Goetze giving his reasons for thinking that our recent allusion to his picture, which bears the above title and which is now on exhibition at Burlington House, was unfair. Mr. Sigismund Goetze's letter was marked "Private" or we should have been happy to publish it. The words to which exception is taken were as follows: "The central figure is a lady suckling a child of four, which is somewhat of a physiological exploit"; and the question is how old the infant which he has painted appears to be. We have scrutinised the picture closely since Mr. Goetze's letter of protest and we have come to the conclusion that the truth lies somewhere between Mr. Goetze's intention and our critic's estimate. The infant does not look four years old and we regret that needless exaggeration should have been employed in such a way as to give pain to the artist. But we find the infant too big, too muscular, and too old-looking as displayed in Mr. Goetze's picture for the occupation in which he is depicted.

ST. PANCRAS MOTHERS' AND INFANTS' SOCIETY.

AS a result of the efforts of Dr. J. F. J. Sykes, the medical officer of health of the borough of St. Pancras, a good deal has been done in that neighbourhood to encourage the natural feeding of their infants by poor mothers and to discourage as far as possible artificial feeding. In this endeavour he has been assisted by a band of lady health visitors and it would appear by the infant mortality rate in St. Pancras last year that some measure of success has been attained. A further step in the same direction is now contemplated by the establishment of the above society. It has for its object the provision of a school for nursing mothers to which they will be invited to go to learn how a baby should be clothed, fed, washed, and tended. It is proposed to have a trained teacher on duty at certain times to give practical instruction on the babies themselves. The mothers are to be taught how to feed their babies and how to cut out and make baby clothes, and if it is found that they take kindly to such teaching it is hoped that cooking, nursing, hygiene, and needlework classes may also be organised. A special feature is an attempt to attract newly married girls to go to the Mothers' and Babies' Welcome, as the institution is appropriately to be named. A further suggestion is that in order to assist the poor mothers properly to nurse their babies cheap dinners, which will be utilised as object lessons in the economical preparation of nourishing food, shall be provided at a small cost. A department is also to be formed in which non-nursing mothers, on the production of a certificate from a medical practitioner, a dispensary, or a hospital, will be taught how to procure pure milk and the best methods of hand-feeding. It is also intended to establish a provident club for parents to encourage the forming of some provision during the time when the mother is laid up, a consulting-room where mothers and babies may be examined and advised, and a bureau for fathers where their circumstances may be investigated and advice given, we presume as to the obtaining of work. As it is obvious that a scheme of this kind cannot be initiated without a good deal of expense an appeal is being made to the inhabitants of the neighbourhood to subscribe towards the expenses of the Mothers' and Babies' Welcome. The scheme is one of considerable interest and should prove, if properly and efficiently carried out, a great boon to the poor mothers of St. Pancras. It is founded partly on the scheme which has been started in Chelsea for providing dinners for nursing mothers and partly on the school for mothers which is in existence at Ghent. We trust sincerely that the Welcome may meet with the support which it deserves.

MEDICAL EDUCATION IN LONDON: THE "CONCENTRATION" QUESTION.

IT is evident that the present position of the movement for the concentration of earlier medical studies under the University of London is receiving much consideration. A letter from Mr. Cosmo Bonsor, the treasurer of Guy's Hospital, containing a resolution on this subject recently passed by the teachers in the medical school of that hospital is published in our columns to-day. In forwarding this resolution to the Principal of the University Mr. Bonsor states that it must not be construed as adverse to the principle of concentration but only to the particular proposals at present sanctioned by the University. As these particular proposals are the outcome of the most careful consideration of the question extending over many years and have been before the public a considerable time, this negative attitude towards them is not very helpful. A meeting of the Faculty of Medicine of the University of London has been called to consider the present position of this question for Friday, June 28th. Perhaps some useful suggestions as to possible modifications of the present scheme may result from the deliberations of the Faculty. It seems clear that some compromise between the conflicting interests of teachers of different parts of the curriculum and of competing institutions must be arranged before any useful report to the Senate can be agreed upon. If this is impossible it would appear necessary for the Senate to set up a sort of informal commission to take evidence upon the subject and to prepare a report for the guidance of the Senate upon this urgent and difficult question.

THE PROBABLE ORIGIN OF SYPHILIS IN EUROPE.[1]

IN this little pamphlet Dr. L. Bousfield has gathered together passages from authors both ancient and modern which show arguments both for and against the existence of syphilis in Europe prior to 1494. The question as to whether this disease did or did not exist in Europe prior to 1494 may be set down in the same category with the two problems mentioned by Sir Thomas Browne as unsolved though not insoluble. Dr. Bousfield asks that allowance may be made for him in having omitted certain evidence. He quotes from various ancient medical authors such as Aretæus and Galen passages which certainly might be descriptive of syphilis and we should say probably are so. He has, however, omitted one from a layman, namely Persius, which is quite worth quoting. It occurs in his Third Satire:

> "Tentemus fauces, tenero latet ulcus in ore
> Putre ......"

The satire, it must be remembered, deals with the fast young men of Rome. Dr. Bousfield gives the well-known passage in Martial, Epigramm. VII., 71, commencing "Ficosa est uxor." The epigram is all about figs, and, as Dr. Bousfield says, there is a play on the words and the exact meaning is very doubtful. What exactly Martial had in his mind it is impossible to say, but we think there is little doubt that there is an allusion to matters such as second-hand book-sellers call "curious." Whatever "ficus" meant in Latin it is certain that the Greek word for a fig—i.e., σῦκον—also meant the *pudenda muliebria*. Moreover, "fig," "fico," and "figue" are all found in the respective languages as expressive of the same organs. Therefore the epigram may very well refer to a venereal sore. Dr. Bousfield gives full value to the views of those who think that the disease called leprosy by mediæval writers was in many cases syphilis. His final conclusions are that syphilis "was either a new disease (in Europe) or a disease which appeared new to the living generation" in or about 1494. The pamphlet is interesting as an introduction to the study of a subject of vast interest and one in which there is still room for arduous research.

THE EARLY NOTIFICATION OF BIRTHS.

THE Notification of Births Bill came before the Grand Committee of the House of Commons during last week and the Bill was then altered in many details. A most important modification was that making it an adoptive Act instead of a compulsory one, that is to say, it is only to apply in the area of any local authority which chooses to adopt it. As the Bill at present stands it provides for the notification of a birth by the father and by any person in attendance on at the time of, or within six hours after, the birth, in writing to the medical officer of health of the district. This must be done within 36 hours of the birth and applies to still-born children as well as to children born alive. Unfortunately, no definition of a still-born child is given in the Bill and no doubt this will lead to confusion and evasion of its provisions. Probably if the Bill passes it will undergo still further modification after consideration by the whole House. The Bill was down for this purpose on Monday, June 10th. It was not, however, reached and the matter was deferred until Thursday, the 13th. It is difficult to understand whether the notice of births is to be the duty of the nurse or of the medical man, since both may be said to be in attendance at the time of birth. But probably it is intended to be done by the medical man. This will throw a considerable amount of extra work on the shoulders of the already hard-worked practitioner, but the more certain and earlier notification of births thus obtained will tend very markedly, at any rate in those districts in which full advantage is taken of the knowledge by the local medical authorities, to the saving of infant life. That such a duty should be laid upon the medical man without any payment being made for it is we think unfair, but any attempts to insist upon the payment of a fee for such certificates is likely to wreck any chance that the Bill may have of passing. It is a matter for regret that no definition of a stillbirth has been inserted in the Bill, as, after all, it is chiefly the compulsory notification of such births which is of the greatest importance. As far as it goes this short Bill might prove of great service, but it is, we think, unfortunate that it has not been made compulsory on all local authorities to adopt it.

AN extra afternoon meeting of the Royal Medical and Chirurgical Society will be held at 20, Hanover-square, London, W., on Wednesday, June 19th, at 5.30 P.M., to listen to a paper by Mr. D'Arcy Power, F.R.C.S., F.S.A., the reception of which by the society constitutes an interesting departure in the practice of that body. Mr. Power's paper is upon Dr. Walter Bayley and his Works, 1529–1592, and as he has ere now proved himself to be a true antiquary, every suggestion that may throw light upon the life or work of Bayley will be received with interest. We hear that in the course of his researches he has discovered Bayley's will, of which extremely interesting document he will give a transcript. To add to the usefulness of the meeting Fellows and others are contributing various objects of antiquarian interest, which will be displayed. Mr. Power, for example, will exhibit a letter of Archbishop Strafford, Abbot of Westminster, dated April 19th, 1445, addressed to all barber surgeons in the City of London, directing them to cease from opening their shops on Sunday on pain of excommunication.

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[1] The Probable Origin of Syphilis in Europe, by L. Bousfield, M.A., M.D. Cantab. London: S. F. Hodsoll. Price 2s. Pp. 23.

THE secretaries of the National Committee of the Fourteenth International Congress of Hygiene and Demography request those who propose to attend the Congress to send in their names to them, stating the titles of their papers, if any, and whether they will attend the Congress as delegates or ordinary members. For information regarding the Congress, which will be held in Berlin from Sept. 23rd to 29th next, application should be made to Professor G. H. F. Nuttall, F.R.S. (honorary secretary), 3, Cranmer-road, Cambridge.

ON June 11th the Queen, with the Queen of Denmark and Princess Victoria, paid a private visit to the exhibition of Red Cross appliances, which closes to-day (Saturday), at Earl's Court. We hope to publish an account of the exhibits in a forthcoming issue of THE LANCET.

TELEGRAMS from the Acting Governor of Hong-Kong, received at the Colonial Office, state that for the week ending June 1st there were 10 cases of plague and nine deaths from the disease, and for the week ending June 8th 15 cases and 12 deaths.

Dr. W. J. R. Simpson will deliver the Croonian Lectures of the Royal College of Physicians of London on Tuesdays and Thursdays, June 18th, 20th, 25th, and 27th, at 5 P.M., at the College, the subject selected being "Plague."

As we go to press we learn that the amount at present received by the Metropolitan Hospital Sunday Fund is £16,000. As usual, we shall give lists of the amounts of the principal collections and donations in future issues.

THE name of Mr. Henry Morris should have been included among those appointed to serve on the Dental Committee of the General Medical Council.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

THE present constitution of the Council is as follows. There are 24 members and three retire each year, but if the time of retirement of a member of the Council should arrive when he is President he does not retire but he becomes entitled to remain a member of the Council for another year. In the natural course of events Sir John Tweedy would have retired in 1904, but he was twice re-elected President, so that his term does not come to an end till this year. The list given below shows the dates of retirement of the present members. The date of the first election is given in every case in which the member has been elected to the Council more than once.

Retire in 1914: Mr. G. A. Wright, Manchester Royal Infirmary; Mr. Henry Morris, Middlesex Hospital (first elected, 1893); and Mr. F. Richardson Cross, Bristol Royal Infirmary (first elected, 1898).

Retire in 1913: Mr. Edmund Owen, St. Mary's Hospital; Mr. Rickman J. Godlee, University College Hospital; and Mr. C. H. Golding-Bird, Guy's Hospital.

Retire in 1912: Mr. H. Gilbert Barling, Birmingham General Hospital; and Mr. Anthony A. Bowlby, St. Bartholomew's Hospital.

Retire in 1911: Mr. H. T. Butlin, St. Bartholomew's Hospital (first elected, 1895); Mr. G. H. Makins, St. Thomas's Hospital; and Mr. C. T. Dent, St. George's Hospital.

Retire in 1910: Professor Howard Marsh, St. Bartholomew's Hospital and Cambridge (first elected 1892); Mr. J. H. Morgan, Charing Cross Hospital; and Mr. H. H. Clutton, St. Thomas's Hospital.

Retire in 1909: Mr. A. W. Mayo Robson, Leeds Infirmary (first elected, 1893); Mr. W. Watson Cheyne, King's College Hospital; and Mr. R. Clement Lucas, Guy's Hospital.

Retire in 1908: Mr. J. Ward Cousins, Royal Portsmouth Hospital (first elected, 1895); Mr. A. Pearce Gould, Middlesex Hospital; and Mr. W. Harrison Cripps, St. Bartholomew's Hospital.

Retire in 1907: Sir John Tweedy, University College Hospital (first elected, 1892); Mr. H. W. Page, St. Mary's Hospital; Mr. C. W. Mansell Moullin, London Hospital; and Mr. Frederic S. Eve, London Hospital.

It will be seen that of the 24 present members of the Council 19 are representatives of London hospitals and five are connected with provincial hospitals. Of the 19 London members four come from St. Bartholomew's; two members each come from Guy's, the London, Middlesex, St. Mary's, St. Thomas's, and University College Hospitals; and one member each is provided by Charing Cross, King's College, and St. George's Hospitals.

There are this year four vacancies and for these there are seven candidates. Sir John Tweedy has decided not to reapply, but the three other retiring members—namely, Mr. Page, Mr. Mansell Moullin, and Mr. Eve—will offer themselves again for election. There are four new candidates—Mr. Charles Higgens of Guy's Hospital, Mr. W. Bruce Clarke of St. Bartholomew's Hospital, Mr. Charters J Symonds of Guy's Hospital, and Mr. W. D. Spanton of Hanley. Of these Mr. Bruce Clarke and Mr. Symonds have been candidates previously. The day of election is Thursday, July 4th.

MEDICINE AND THE LAW.

The Control of Medical Certificates.

FROM time to time difficulties arise between the parents of children of school age and the local education authority as the result of the production by the former of a medical certificate which states that the child is either fit or unfit to attend school. It is a professional axiom that a medical practitioner expects his *bonâ fide* certificate of health to be accepted without question, but occasionally the validity of such documents is contested. Two recent cases may be given in illustration. At a petty session for hearing school-attendance summonses at St. George-in-the-East a mother endeavoured to excuse her daughter's absence from school by producing a medical certificate which stated that the child was in such a condition as to be unfit to attend school, her complaint being pediculosis capitis. The justices declined to accept this certificate as a sufficient excuse, it being a matter of common knowledge that the repeated neglect of a parent is solely responsible for this verminous state; indeed, they fined the mother somewhat more heavily than in ordinary cases of summons for non-attendance at school. A few months back the public health (education) department of the London County Council issued a notice to the effect that it was considering whether a child who had been excluded from a public elementary school on account of diphtheria or other sore-throat should be readmitted to the school unless previously a medical certificate had been delivered which stated that the throat of the child was bacteriologically free from the diphtheria bacillus; the necessary clinical research would be executed free of cost to the parent; a medical certificate based on other signs would not be accepted. This innovation was the result of the expression of opinion made by the Incorporated Society of Medical Officers of Health. The proposal has been objected to as an apparent dictation to medical practitioners as to their methods of arriving at a diagnosis; the London County Council was requested to reconsider the novel legal position which would be established. It has now been advised that the code of regulations for elementary education provides that no child shall be refused admission to a public elementary school on other than reasonable grounds to be determined in case of dispute by the Board of Education and, therefore, as there is little doubt that the Board of Education would decide that it is reasonable to require such bacteriological examination provided the parents were enabled to obtain such examination without expense, the London County Council is acting within its power in demanding that form of medical certificate.

Hearsay Medical Evidence.

The statements made by an injured person to his medical adviser are sometimes included in the exception to the rule of the law of evidence which prohibits "hearsay testimony" from being adduced in court. Such statements recently formed the subject of dispute in the case of Gregory v. the State, tried in the Appellate Division of the Supreme Court of Alabama. The proceedings arose upon a charge of homicide. The alleged statement of the deceased patient that he had "no feeling in the feet or legs and had burning in the stomach" was testified to by a medical witness; the admission of such hearsay testimony was challenged. The decision was that, had the words quoted referred to the cause or way in which the accident resulting in the injury had occurred, they would have been excluded, for otherwise that would have been admitting a narrative of past events which should have been proved in the usual way. Here, however, what was desired to be put in evidence was the character, locality, and symptoms of pain which aided in explaining the bodily condition of the injured man and so assisted the medical adviser in forming an opinion of the nature and extent of the injury. In narrating what the patient said he felt and suffered the physician was stating some of the facts which enabled him to arrive at a correct diagnosis of the injury and to prosecute a line of treatment; as his diagnosis and his treatment may be questioned in court the clinical facts which led up to his conclusions should also be allowed. It is obvious that this form of hearsay testimony can only be allowed where the patient is already deceased, otherwise he should be produced as a witness in court. In attending what appears to be a case of attempted homicide it is well to note down all comments made by the victim; they may be useful later.

The Case of Mr. Burnyeat.

Mr. W. D. Burnyeat, M.P., has no doubt learnt a lesson during the past fortnight which he will not forget, and it is to be hoped that his experiences will have a more extended usefulness by enabling some of those foolish persons who dose themselves with drugs the qualities of which they do not understand to appreciate the kind of consequence which may follow such conduct. It is not necessary to recount in detail that which the daily newspapers have already related in their reports of the hearing of the charge against the member for Whitehaven at the police-court. Having arrived early in the morning at a hotel in London after a night journey and being seized with griping pains after breakfast he took "chlorodyne," pouring it on his tongue undiluted. His own evidence was that he was not in the habit of using "chlorodyne" but that he had done so on six or eight occasions during his life and that he usually carried some with him when travelling. At all events, he had in his bedroom on the morning in question a bottle of chlorodyne of which four-fifths of the contents had been consumed as well as an unopened bottle and he repeated at intervals during the day the process of swallowing chlorodyne "neat" until at some time after 6.15 P.M. he had emptied both bottles. Meanwhile he had taken no food, as he was still feeling very unwell, but had done some work at his own chambers in the Temple, and had attended a consultation at the chambers of a King's Counsel in Lincoln's-inn a little after 4 P.M. Walking westwards along the Strand after finishing the chlorodyne, as mentioned above, he felt faint and went into the Gaiety Restaurant and had two small "whiskies and sodas." After this, according to his own evidence, he remembered entering an omnibus with a view to reaching Charing Cross and recollected nothing further until he found himself in a cell at Kennington-road police station, whither he had been taken on an ambulance by a constable who had found him apparently drunk and incapable outside Waterloo Station. As to the formalities which preceded his release from the police station he had no recollection when late on the following day he saw his name placarded on the bills of the evening newspapers as having failed to surrender at the police-court. The charge of drunkenness against him has now been heard and dismissed, there being abundant witnesses of unimpeachable integrity as to his temperate habits and good character generally, and as to his sobriety on the day in question, followed by the evidence of Dr. A. P. Luff, Mr. A. J. Pepper, and Dr. J. S. Bury of Manchester, to the effect that the amount of chlorodyne which he had imbibed during the day and which had accumulated in an empty stomach until finally diluted and absorbed through the action of the whisky and soda-water would be calculated to produce exactly the symptoms which the police had observed and which Mr. Burnyeat, so far as he was able, described. Accordingly, Mr. Burnyeat was acquitted of the charge brought against him by the police, as he was clearly entitled to be, but surely he must remain convicted before the tribunal of his own conscience of being a very unwise person, in spite of his legal attainments and of the mental qualities which have won for him at an early age a seat in the House of Commons. That an educated man should dose himself with "patent" nostrums instead of having recourse to a medical practitioner when feeling as ill as he no doubt did would hardly be credible if examples of such imprudence did not occur frequently; it is less easy to understand how a man whose intelligence and education may be assumed to have been above the average should persist in taking for a whole day a compound the general characteristics of which are so well known as those of "chlorodyne." His own sensations must at least have shown him that he was doing himself no good, and he must presumably have drawn the less reasonable conclusion at the same time that he could consume a bottle full of it without its having any effect of any kind. We have congratulated him upon having vindicated his character for temperance; we must also express the hope that he realises his good fortune in having survived to do so. Apart from the amount of the drug which he consumed he must have escaped considerable danger during the interval between his visit to the restaurant and the time when the police took charge of him.

NOTES UPON HEALTH RESORTS.

(FROM A SPECIAL CORRESPONDENT.)

THE AUSTRIAN SPAS.

IN various parts of the Austrian Empire there are places known as "kurorte," a word which may be translated health resorts or spas, but which conveys the additional meaning that the places in question are officially recognised as such, and the Government permits the use of this appellation only when the local conditions deserve it on account of the salubrity of the air or the therapeutic value of the mineral springs. The title "kurort" means also that the visitor has to pay a certain sum (*kurtaxe*) for the privilege of using the thermal springs as a contribution to the cost of keeping the place up to date. The sum to be paid varies according to the place and the length of the stay that is made. As a rule, the first eight days are free from this tax and the total hardly ever exceeds £2. The accommodation is mostly on the continental system. The English custom of boarding-houses is only exceptional and is prevalent in such places as are more frequented by English and American visitors in the Tyrol, whilst the majority of places has for the visitors the system of furnished rooms and flats or hotel accommodation. With the exception of one or two of the most fashionable kurorte, like Carlsbad or Marienbad, the cost of living is considerably cheaper than in the equivalent English spas or seaside places, whilst the scenery and the variety of the peasant population, the old-fashioned costumes, and quaint customs and habits of the rural inhabitants which are to be met with everywhere, in spite of the tendency to uniformity produced by modern education, form a pleasant change for those who are not used to it. There are four distinct groups of kurorte in Austria, with four different groups of indications. One group, mostly situated in the northern parts of Bohemia and Silesia on the slopes and within the northern valleys of the Bohemian mountains, comprises the spas with warm medicinal springs, the principal names being Carlsbad, Marienbad, Franzensbad, and Teplitz-Schönau. Another group, where the clear, pure mountain air is the chief factor or where the warm, mild climate is sought on account of the position in a warm valley, comprises the well-known places in the Tyrol—Meran, Bozen, Gries, Arco, and Riva; these places give excellent results in cases of diseases of the upper and lower air passages. The next group is formed by those kurorte which possess special mineral waters containing sulphur, iodine, iron, or alkalies, such as Baden, Darkau, and Hall, whilst a number of health resorts situated on the sea coast, or within the Alpine region, are famous simply for the tranquillising effect of their bracing, healthy climate. Of all these places the Bohemian mineral springs are the best known. It is unnecessary to speak of

Carlsbad and Marienbad in this article. They are well known o all English readers; but the other place, Franzensbad, deserves to be remembered by all medical men. The place tself is situated on the slopes of the Erzgebirge, protected against the northern winds and surrounded by extensive forests, and is arranged like a garden city. The springs are 12 in number: the waters are pure, of a somewhat acid taste, and with a trace of common salt and iron in them. The springs also contain a large amount of carbonic acid gas, which has lately become very important in rendering the waters a remedy for cardiac troubles if applied in the form of carbonic acid baths. The chief constituents of the waters are: sulphates of sodium and potassium, common salt, carbonates of magnesium, lithium, calcium, and sodium, and carbonate of iron, of which last constituent there are about 5 parts in 10,000 parts of the water. The Franzensbad waters are therefore among the strongest natural ferruginous waters. The quantity of free carbonic acid gas varies between 830 and 1800 cubic centimetres per litre of the water and the temperature is about 10° C. The carbonic acid contained in the water constitutes the chief factor of the modern development of this spa. Since the salutary qualities of carbonic acid baths have been made use of in the Nauheim treatment it has been claimed that Franzensbad, by the combination of its walks and promenades situated on a gentle slope, together with its effervescent baths, is at least equal to Nauheim, if it does not surpass it. A number of physicians have also settled here and the therapeutic results obtained are very good. The older indications of treatment at Franzensbad were anæmia and other disordered states of the blood, diseases of females, and chronic arthritic changes, which are treated here with the famous "Moor," or mineral mud, which forms an immense natural deposit amounting to about 6,000,000 cubic metres. Moor consists of a mixture of decomposed organic matter from swamps and ditches, with an admixture of alkaline substances, sulphuric, formic, and acetic acids, the result of decomposition in the absence of atmospheric oxygen. As prepared for therapeutic use it has the appearance of a thick, unctuous, brown mud. The number of visitors is upwards of 11,000 and the season lasts from the middle of April to the middle of October.

The second kurort belonging to the same geological formation is Teplitz-Schönau in Austria (Bohemia). The town has about 30,000 inhabitants and is one of the richest communities in the richest crownland of the Austrian Empire. The warm springs have been celebrated for 1100 years and belong to the class of alkaline-saline waters. Their temperature varies from 28° to 46° C. and their track has been discovered along the primary formation of the mountain range called Erzgebirge (metalliferous mountains). These ranges consist chiefly of porphyry, granite, and gneiss, and together with the basalt formation of the Mittel-Gebirge, they form beautiful landscapes with far-reaching plateaus and peaks, the stony soil of which is unsuitable for tree growth, so that extensive woods exist in only a few places. A notable fact in the history of the springs is that the flow of water ceased on two occasions. The first was in 1755, when the fearful earthquake of Lisbon occurred; the water suddenly ceased to flow but returned after a short time with more than its former force. After this the flow continued till in 1879 some coalmines in the vicinity of the spa were flooded by hot water and the springs again failed. Fortunately, however, for the watering-place, another and a larger supply was found at a somewhat greater depth than before. The chief constituents of the springs are sulphates of potassium and sodium, carbonates of iron, magnesium, lithium potassium, and strontium, alumina, and silicic acid. The diseases in which the waters of Teplitz-Schönau are indicated are rheumatism, gout, metallic poisoning, neuralgia, and catarrhal conditions of the uropoietic system. The curative effects of the waters are augmented by applications of mineral mud (Moor). The number of visitors who went there for medical treatment last year was 36,000.

A different series of indications characterises the so-called luft-kurorte (climatic health resorts) of the Tyrol and the Alps. These places are admirably suited for patients who either require a uniform mild climate without any violent changes of the temperature or air currents, or who are simply convalescents seeking quietness. They are situated chiefly in the middle of the large valleys in the Alps. One of them is Ischl in the Salzkammergut near Salzburg. The town is situated in the centre of the picturesque district, which comprises upon a comparatively small area a beautiful specimen of Alpine scenery, including half a dozen lakes and seas, as well as mountains covered with perpetual snow up to 5000 feet high. The kurort is sheltered from the north and west winds by the lofty wooded peaks of the Traungebirge, and the climate is very mild and moist. The number of days with rain or snow is about 178 per annum, and the mean temperature is 8° C. The therapeutic agents are, besides the air, the saline-alkaline waters and the so-called quell-soole, or salt brine. The springs are cold, pure, and contain chloride of sodium and carbonate of calcium, whilst the "soole" is a concentrated (25 per cent.) solution of the salt found in the mountains. These latter contain in many places salt mines which are made use of by flooding them with water. This water dissolves out all the salt, then it is conducted by means of a great aqueduct into the baths, whilst another line of pipes brings the solution into the "Sudhaus" where it is evaporated so that the salt is obtained in a crystalline mass. The diseases suitable for treatment at Ischl are chlorosis, anæmia, general debility, chronic catarrhs of the upper air passages, and scrofulosis. Especially for the last diathesis the stay in Ischl with the use of the brine bath is much recommended. Very beautiful excursions into the Alpine surroundings and the bracing air of the lakes bring every year many thousands of visitors here.

A similar position as regards the advantages of the air and the water is attributed to a small place called Vöslau, about 20 miles to the south of Vienna. The place itself is a quiet modern garden village which boasts of the purest akratothermal spring (28° C.) in Europe. A very large swimming establishment is supplied by this spring; its water is so clear that even at the depth of four metres each pebble is visible. Good results have been obtained from the external use of it in cases of anæmia and in rachitic children, whilst the "grape cure," consisting in the consumption of increasing quantities (from one to six pounds daily) of the fine Vöslau grapes is a speciality of the place in September. Lovely scenery of a subalpine character may be enjoyed from any house in the village.

Semmering is a name which has come into prominence only lately, but which indicates first-class air of a bracing character free from every trace of dust. It is situated at an altitude of 1000 metres (3000 feet), opposite the peaks of the Schneeberg and Rax which are 5000 feet high. This is reached in two hours by train from Vienna and has quickly obtained a well-founded reputation as a resort for convalescents. But the place is quickly losing its rural character on account of the accommodation (excellent in its way) provided there by an enterprising company.

As regards places in the Tyrol, they are already well known in English circles, at least Meran and Bozen. Of these two the first is a health restorer *par excellence* for diseases of the air passages, especially for the early stages of pulmonary tuberculosis. It occupies a commanding position in the valley of the Texel and Iffinger, is about the centre of the Tyrol, and faces the south, whilst it is sheltered in all other directions by the before-named mountains, which are from 6000 to 7000 feet high. The peculiarities of its climate are its elevated position (1500 feet above sea-level), great purity of the air and absence of clouds. During the winter months (November to March) there were 55 absolutely cloudless days, so that only Cairo beats it in this respect (63 days), and in Meran rain fell on only 45 days and snow on only seven days during the year, whilst all other climatic resorts (except Cairo) show a larger number of days with rainfall. The air is very tranquil, there being only 14 days of high wind in winter, and its relative humidity is 68 per cent., like Davos, Cairo, and the Riviera. Patients may therefore spend the greater part of the day out of doors. The temperature hardly ever goes below 0° C. in the winter at noon. Moreover, there are provided all apparatus for inhalation, vapourisation, and electric and gymnastic treatment. The indications are clear: incipient pulmonary tuberculosis, weakly children, chronic exudations, inflammations of the glands, and nervous debility. Prices are not high, so that a person may live here on £10 10s. a month pretty comfortably. The situation of Meran in the centre of the Tyrol marks it as a starting-point for tourists and the beauties of the Alps are easily enjoyed. The number of English visitors was upwards of 700 last year, whilst 17,000 persons were counted during the season which lasts from September to June.

Similar conditions prevail in Bozen and Gries, two places which are not far away, and where the climatic conditions are nearly the same. The only difference is perhaps to be seen in the fact that the last-named two places are more frequented by patients, whilst Meran has other visitors as well. In all the Tyrol towns there are picturesque houses and old-fashioned habits and the hospitality of the population is too well known to require special mention. Also in the south of the Tyrol—namely, on the Italian frontier—there are a number of health resorts which are not very much known outside the empire, but which deserve to be mentioned in this article. Arco, Riva, and Rovereto are the three most important of them. The climate is that of the north of Italy—very warm and dry—and the presence of the large Lake Garda brings the influence of this great expanse of water to bear upon the air, so that a stay in one of these places, or in Torbole, Mori, and Salo, is very often recommended to convalescents. The latter names are known to all tourists in the Tyrol and North Italy, for the scenery can scarcely be surpassed in grandeur and beauty. The prices are low, the water is good, and the sanitation is now improved. At the height of the season accommodation is somewhat scarce. As regards the language, German is sufficient even in the Italian parts of the Tyrol, whilst English is at least understood in all the places, because numerous visitors go to the Alpine countries from England and America, and they are welcome guests. The money is Austrian currency throughout, and meals are mostly arranged on the continental system of breakfast, dinner at noon, tea, and supper after 7 P.M.

Among the kurorte with special waters mention may be made of the sulphur springs of Baden, the arsenical waters of Levico, and the springs of Hall and Darkau containing salts of iodine and bromine. The first-named of these places, Baden, lies 20 miles to the south of Vienna, and is in summer, during the season, the favourite health resort of the well-to-do-classes of the capital. The mineral springs, 13 in number, are very old, inasmuch as the ancient Romans are said to have derived benefit from them. The principal saline constituents of the springs are the sulphates of iron, aluminium, and calcium, and by the interaction of the atmospheric oxygen and the sulphuretted water pure sulphur is set free in a state of suspension in the water, giving it a beautiful bluish appearance. The temperature of the springs varies from 28° to 40° C., and a large swimming-bath, with the sulphur water of 26° C., is a feature of the place. Rheumatic affections and the gouty and arthritic diathesis are much benefited by the external application of the waters in combination with the sulphur mud; in recent years the sulphuretted water has been discovered to be radio-active. Diseases of the skin attended with desquamation (eczema, psoriasis, and seborrhœa) are successfully treated here. The lovely neighbourhood of Baden, at the opening of the Helenenthal, and the excellent accommodation combine to make the place one of the most frequented kurorte in Austria. The number of visitors paying kurtaxe was 30,000 last year. The only drawback for some people is the peculiar smell of sulphuretted hydrogen exhaled by the waters at their source.

The arsenical waters of Levico are now employed by many physicians in Germany, France, and Italy. The place itself lies in the south of the Tyrol, has 2000 inhabitants, and possesses three springs yielding medicinal waters. These contain arsenic, iron, and copper, mostly as carbonates and hydroxides. The water is only used for drinking and is exported in bottles to all parts of the world. Anæmia, chlorosis, diseases of females, arterio-sclerosis, and cachexia are the principal indications for a visit to Levico. The place is quite modern; although small, the number of visitors was 3000 in 1905, and the season lasts practically all the year round, as the climate is actually that of a warm southern place.

Next in order come the iodine waters. There are two places famous for their springs. The one is Darkau in Silesia, the waters of which are said to be the strongest in Europe. The two springs are very old, and one is 750 metres deep, whilst the other is only 90 metres deep. The quantity of mineral water obtained from both these is more than 20,000 litres per day. They contain in 10,000 parts of water 0·130 parts of silica, 151 of chlorine, 1·021 of bromine, 0·395 of iodine, and 114 of soda, as well as oxide of iron, sulphuric acid, potash, and organic matter. Darkau is the only place where the iodine waters are strong enough for bathing and not too strong for drinking. The temperature of the water is 7° C., and the water comes from tertiary formations through layers of salt, gypsum, and granite. It has a peculiar taste and smell, and it is used in all affections where iodine compounds are indicated, especially scrofulosis, syphilis, and goitre. The place is famous for its cheapness and for the colonies of children sent thereto from all parts of the empire. A stay of four weeks, together with 25 baths and medical attendance and the kurtaxe, is easily covered by £10 or £12.

Bad Hall, in Upper Austria, the rival of Darkau, is a very well-known health resort with the same indications but with weaker waters. There are four springs in the town, of a temperature of 11° C., and producing nearly 100,000 litres per day, which are also exported all over the world in bottles. The water contains in 10,000 parts 0·26 parts of iodine, 0·71 of bromine, and 79·6 of chlorine, as well as sulphuric acid, magnesia, ferric compounds, and carbon dioxide. The waters are used both internally and externally, being not only drunk but also employed for "inhalation," gargles, and fomentations. The number of visitors in 1905 was 1800. The diseases specially suitable for treatment are syphilis and tuberculosis but the excellent country-life opportunities are beneficial also to persons suffering from nervous diseases, anæmia, and hysteria, as well as to those afflicted with exudations into different cavities.

The marine resorts of Austria are all situated on the coast of the Adriatic sea, which is warm and seldom stormy. The water is nearly as concentrated as that of the Baltic sea, whilst the kurorte are quaint small places with Eastern characteristics; Greek, Italian, Turkish and other Oriental features may be seen at every step. Sea-bathing goes on from April to November, as the temperature of the sea varies from 20° to 32°C. (68° to 90° F.), according to the time of the year, and sun and air baths are to be had during five months. The places are invariably ancient relics with modern patches in them. Their early history records many cruel wars or savage devastations by invading Goths or Huns, whilst Venice found one source of its wealth and power in the rich countries on the east of the Adriatic. Now they are parts of the Austrian Empire. A succession of fine harbours begins at Abbazia and reaches as far as Cattaro, with 25 islands lying off the mainland. The name of the country is Dalmatia and the population a mixed race of Slavs, Celts, and Romans. Living is very cheap there and the number of visitors is ever increasing. Then there is Abbazia, which possesses relics 1500 years old, and whose bishops were once rivals of the Pope. The promenade along the sea front is six kilometres in length, and beautiful sands, together with the absence of violent changes in the weather, combine to make it a first-class seaside resort for the anæmic and the neurotic; 20,000 visitors were counted in 1904, amongst them being the Emperor William II. of Germany. There is also Grado, facing south, which with miles of sand and with hours of brilliant sunshine is an ideal place for children. Grado has the best record of sunshine in Austria and is one of the warmest places on the coast. Ancient churches with gravestones from the year 530 prove the age of the town; the concentrated sea-water is very good for scrofulosis and has been known and employed for this purpose ever since that time. Then there are Loorana, Lussin, and Brioni, the last like the Isle of Wight, with a mild, somewhat moist climate and good accommodation, but a little out of the way of the general traffic. In fact, all the watering places of Dalmatia are only beginning to come to the notice of the medical profession as health resorts, but they have a good future before them, for the opportunities which they offer in respect to quiet, climate, influence of the sea, and the sub-tropical outdoor life are not to be found in the fashionable kurorte.

BRITISH MEDICAL BENEVOLENT FUND.

AT the last monthly meeting of the committee 13 applications for assistance were received and sums amounting to £104 were voted in relief to 11 of the cases. Two vacant annuities of £20 were filled by the election of candidates from the selected list. An abstract of the cases to which help was given is appended.

1. M.D. (Aberdeen), aged 54 years. Used to practise in London but was obliged to give up a few years ago and is now making a fresh start in the country. Is promised some help by a friend. Two children, the younger at school. Voted £10.

2. Widow, aged 46 years, of M.D. (Glasg.). Only income a few shillings a week. Two children, aged five and three years. Voted £10.

3. Widow, aged 56 years, of L.R.C.P. Edin. Income £10 a year;

slight help from sons. Is endeavouring to obtain a post as housekeeper or companion but finds great difficulty. Voted £5.

4. Widow, aged 52 years, of M.D. Aberd. No income; health very feeble. Two children, but unable to help. Voted £10.

5. Widow, aged 47 years, of M.R.C.S. No income; endeavours to support herself by letting lodgings. A son unable to work owing to ill health. Voted £12.

6. Daughter, aged 59 years, of late M.R.C.S. Dependent on a Government pension of £14 a year and an annual gift from Lloyd's Patriotic Fund. Health indifferent. Relieved ten times, £70. Voted £5.

7. Daughter, aged 60 years, of late M.R.C.S. No income and mentally deficient. Relieved once, £12. Voted £12.

8. Daughter, aged 67 years, of late M.R.C.S. Only provision a small annuity. Relieved once, £5. Voted £5.

9. Daughter, aged 51 years, of late M.R.C.S. Has supported herself as a teacher but finds she can no longer obtain employment. Relieved once, £10. Voted £10.

10. Widow, aged 65 years, of late M.D. Edin. No income; children unable to help. Relieved three times, £37. Voted £12.

11. Daughter, aged 62 years, of late M.R.C.S. Has a pension of £20 a year. Unable to earn on account of indifferent health and failing sight. Relieved 12 times, £96. Voted £10.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 13th, 1829.

CASE OF AMNESIA.

It is a question yet to be *decided*, *whether* the intellectual and moral faculties have for their various modifications distinct organs, or have the brain as a common organ, in which the different faculties may be displayed. *This* question is to be mainly resolved, it is most probable, by a careful attention to the intellectual phenomena *in a morbid* state. In this view, the following case, it *appears to me*, is deserving to be placed on record:—

The Rev. Mr. R., ætat. 48, is of a sanguine temperament, tends to obesity, enjoys excellent health, his intellect of a high order, temper good, and lively. He has lately experienced some mental anxiety. Sept. 5th, 1828, he awoke *early with headach*, after a restless night. He had taken a sudden cold the previous evening. Some castor oil now exhibited acted freely, and he again laid down. At *eleven I was sent for suddenly*, and *found him* in bed, evidently in the full possession of his senses, but incapable of uttering *a word. There* was frontal pain over the eyes; the tongue was in *no* way affected. All my questions were perfectly comprehended, and answered by signs; and it could be plainly seen, by the *smile* on the countenance, after many ineffectual attempts to express his ideas, that he was himself surprised, and *somewhat* amused, at his peculiar situation. The face at this time was flushed, the pulse full and somewhat slow, and to my inquiries if he suffered pain in the head, he pointed to the front of his *forehead* as its seat. I directed hot water to be brought in a bucket, for a pediluvium, and made preparations to draw *blood*. Mr. R. exhibited at this time a strong desire to *speak*, *and*, after a great many ineffectual efforts, endeavoured to make me comprehend his meaning by signs. Finding I could not understand him, he made a sign that he would write. When *furnished* with pen and paper, he attempted to convey his meaning, but I saw he could not recall words, and that he had written *an unintelligible* phrase; it was "Didoes doo the doe." *Forty ounces of blood* were drawn from the arm, and before the *operation* was completed, speech was restored, though a difficulty *continued* as to the names of things, which could not be *recalled*. *The bleeding* and pediluvium produced some faintness, and he was placed in bed. The loss of speech appearing *to* recur again, in fifteen minutes, ten ounces more of blood were abstracted, and sinapisms applied to the arms, legs, and thighs, *alternately*: the skin became moist, and the headach was *relieved*. Mr. R. now communicated to me, that when he made the attempt to write, he had intended to inform *me he* had already used a foot bath, and I might see the floor still wet, where the water had been spilt. The sleep that *night* was disturbed by *uneasiness* and throbbing in the head, which disappeared in the *course* of *the 6th*, and no further return of the affection has occurred.

The inference to be drawn from these facts are, 1st. That as the cerebral irritation produced no general affection or disturbance of the functions of the *brain*, it was local or limited: and, 2d, as loss of language was the only functional derangement of the intellectual *faculties*, that faculty must have been connected with the portion of the brain, the seat of the irritation; and 3d. That an organ of language exists in the brain. This case lends a strong confirmation to the general truth of the doctrines of Phrenology. —*Dr. S. Jackson, Pennsylvania.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS

In 76 of the largest English towns 6316 births and 4213 deaths were registered during the week ending June 8th. The annual rate of mortality, which had been equal to 15·1, 14·0, and 14·5 per 1000 in the three preceding weeks, further declined to 13·7 in the week under notice. During the first ten weeks of the current quarter the death-rate in these towns has averaged 15·7 per 1000, the rate in London during the same period being 15·2. The lowest annual death-rates in the 76 towns during the week were 4·9 in Burton-on-Trent, 5·9 in Barrow-in-Furness, 7·0 in Walthamstow, and 7·5 in Hornsey; the highest rates were 20·5 in Middlesbrough, 23·1 in St Helens, 23·6 in Huddersfield, and 23·8 in Tynemouth. The 4213 deaths in the 76 towns showed a further decrease of 223 from the steadily declining numbers in recent weeks, and included 463 which were referred to the principal epidemic diseases, against 474 in each of the two preceding weeks; of these, 193 resulted from measles, 130 from whooping-cough, 49 from diarrhœa, 48 from diphtheria, 30 from scarlet fever, 13 from "fever" (principally enteric), and not one from small-pox. The deaths from these principal epidemic diseases were equal to an annual rate of 1·5 per 1000, the rate from the same diseases in London being 1·6. No death from any of these epidemic diseases was registered last week in Plymouth, Stockport, Rochdale, Devonport, Hastings, Rotherham, Barrow-in-Furness, or Stockton-on-Tees; the annual death-rates therefrom, however, ranged upwards to 3·0 in Portsmouth, 3·1 in Hanley, 3·7 in Bolton, 4·1 in Wigan, 4·2 in Tottenham, and 5·6 in Middlesbrough. The fatal cases of measles, which had been 214, 207, and 201 in the three previous weeks, decreased to 193 in the week under notice; the highest death-rates from this disease were 1·9 in Blackburn, 2·1 in Gateshead, 3·1 in Hanley and in Bolton, and 5·1 in Middlesbrough. The 130 deaths from whooping-cough were in excess of the numbers in the two preceding weeks; the annual death-rates from this cause ranged upwards to 1·3 in Tottenham and in Newcastle-on-Tyne, 1·4 in South Shields, 1·6 in Walsall and in Wallasey, and 1·9 in Tynemouth. The deaths referred to diarrhœa, which had been 61, 51, and 47 in the three previous weeks, were 49 last week. The 48 fatal cases of diphtheria corresponded with the number in the preceding week; the mortality was highest in Portsmouth, Reading, and Norwich, being equal in each case to an annual rate of 1·3 per 1000. Of the 30 deaths from scarlet fever, 11 occurred in London, four in Liverpool, and one in each of 15 other towns; while the 13 cases of "fever" included three in London, two in Manchester, and one in each of eight other of the 76 towns. The number of scarlet fever cases in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2679, 2732, and 2824 at the end of the three preceding weeks, had further risen to 2861 at the end of the week under notice; 368 new cases were admitted *during* the week, against 383, 382, and 437 in the three preceding weeks. The deaths in London referred to pneumonia and other *diseases of the* respiratory organs, which had been 235, 230, and 192 in the three preceding weeks, further declined to 186 last week, but were 14 in excess of the number in the corresponding weeks of the five preceding years. The causes of 41, or nearly 1 per cent., of the deaths registered during the week were not *certified either* by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, *Bristol*, West Ham, Newcastle-on-Tyne, and in 50 other of the 76 *towns*; *the proportion* of uncertified deaths, however, again showed a *marked* excess in Liverpool, Birmingham, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, *which had been* equal to 19·7 17·5, and 16·7, per 1000 in the three preceding weeks, rose again to 19·0 in the week ending June 8th, and exceeded the rate in the 76 English towns by 5·3. The rates in the are nearly the same. The only difference is perhaps to be seen in the fact that the last-named two places are more frequented by patients, whilst Meran has other visitors as well. In all the Tyrol towns there are picturesque houses and old-fashioned habits and the hospitality of the population is too well known to require special mention. Also in the south of the Tyrol—namely, on the Italian frontier—there are a number of health resorts which are not very much known outside the empire, but which deserve to be mentioned in this article. Arco, Riva, and Rovereto are the three most important of them. The climate is that of the north of Italy—very warm and dry—and the presence of the large Lake Garda brings the influence of this great expanse of water to bear upon the air, so that a stay in one of these places, or in Torbole, Mori, and Salo, is very often recommended to convalescents. The latter names are known to all tourists in the Tyrol and North Italy, for the scenery can scarcely be surpassed in grandeur and beauty. The prices are low, the water is good, and the sanitation is now improved. At the height of the season accommodation is somewhat scarce. As regards the language, German is sufficient even in the Italian parts of the Tyrol, whilst English is at least understood in all the places, because numerous visitors go to the Alpine countries from England and America, and they are welcome guests. The money is Austrian currency throughout, and meals are mostly arranged on the continental system of breakfast, dinner at noon, tea, and supper after 7 P.M.

Among the kurorte with special waters mention may be made of the sulphur springs of Baden, the arsenical waters of Levico, and the springs of Hall and Darkau containing salts of iodine and bromine. The first-named of these places, Baden, lies 20 miles to the south of Vienna, and is in summer, during the season, the favourite health resort of the well-to-do-classes of the capital. The mineral springs, 13 in number, are very old, inasmuch as the ancient Romans are said to have derived benefit from them. The principal saline constituents of the springs are the sulphates of iron, aluminium, and calcium, and by the interaction of the atmospheric oxygen and the sulphuretted water pure sulphur is set free in a state of suspension in the water, giving it a beautiful bluish appearance. The temperature of the springs varies from 28° to 40° C., and a large swimming-bath, with the sulphur water of 26° C., is a feature of the place. Rheumatic affections and the gouty and arthritic diathesis are much benefited by the external application of the waters in combination with the sulphur mud; in recent years the sulphuretted water has been discovered to be radio-active. Diseases of the skin attended with desquamation (eczema, psoriasis, and seborrhœa) are successfully treated here. The lovely neighbourhood of Baden, at the opening of the Helenenthal, and the excellent accommodation combine to make the place one of the most frequented kurorte in Austria. The number of visitors paying kurtaxe was 30,000 last year. The only drawback for some people is the peculiar smell of sulphuretted hydrogen exhaled by the waters at their source.

The arsenical waters of Levico are now employed by many physicians in Germany, France, and Italy. The place itself lies in the south of the Tyrol, has 2000 inhabitants, and possesses three springs yielding medicinal waters. These contain arsenic, iron, and copper, mostly as carbonates and hydroxides. The water is only used for drinking and is exported in bottles to all parts of the world. Anæmia, chlorosis, diseases of females, arterio-sclerosis, and cachexia are the principal indications for a visit to Levico. The place is quite modern; although small, the number of visitors was 3000 in 1905, and the season lasts practically all the year round, as the climate is actually that of a warm southern place.

Next in order come the iodine waters. There are two places famous for their springs. The one is Darkau in Silesia, the waters of which are said to be the strongest in Europe. The two springs are very old, and one is 750 metres deep, whilst the other is only 90 metres deep. The quantity of mineral water obtained from both these is more than 20,000 litres per day. They contain in 10,000 parts of water 0·130 parts of silica, 151 of chlorine, 1·021 of bromine, 0·395 of iodine, and 114 of soda, as well as oxide of iron, sulphuric acid, potash, and organic matter. Darkau is the only place where the iodine waters are strong enough for bathing and not too strong for drinking. The temperature of the water is 7° C., and the water comes from tertiary formations through layers of salt, gypsum, and granite. It has a peculiar taste and smell, and it is used in all affections where iodine compounds are indicated, especially scrofulosis, syphilis, and goitre. The place is famous for its cheapness and for the colonies of children sent thereto from all parts of the empire. A stay of four weeks, together with 25 baths and medical attendance and the kurtaxe, is easily covered by £10 or £12.

Bad Hall, in Upper Austria, the rival of Darkau, is a very well-known health resort with the same indications but with weaker waters. There are four springs in the town, of a temperature of 11° C., and producing nearly 100,000 litres per day, which are also exported all over the world in bottles. The water contains in 10,000 parts 0·26 parts of iodine, 0·71 of bromine, and 79·6 of chlorine, as well as sulphuric acid, magnesia, ferric compounds, and carbon dioxide. The waters are used both internally and externally, being not only drunk but also employed for "inhalation," gargles, and fomentations. The number of visitors in 1905 was 1800. The diseases specially suitable for treatment are syphilis and tuberculosis but the excellent country-life opportunities are beneficial also to persons suffering from nervous diseases, anæmia, and hysteria, as well as to those afflicted with exudations into different cavities.

The marine resorts of Austria are all situated on the coast of the Adriatic sea, which is warm and seldom stormy. The water is nearly as concentrated as that of the Baltic sea, whilst the kurorte are quaint small places with Eastern characteristics; Greek, Italian, Turkish and other Oriental features may be seen at every step. Sea-bathing goes on from April to November, as the temperature of the sea varies from 20° to 32°C. (68° to 90° F.), according to the time of the year, and sun and air baths are to be had during five months. The places are invariably ancient relics with modern patches in them. Their early history records many cruel wars or savage devastations by invading Goths or Huns, whilst Venice found one source of its wealth and power in the rich countries on the east of the Adriatic. Now they are parts of the Austrian Empire. A succession of fine harbours begins at Abbazia and reaches as far as Cattaro, with 25 islands lying off the mainland. The name of the country is Dalmatia and the population a mixed race of Slavs, Celts, and Romans. Living is very cheap there and the number of visitors is ever increasing. Then there is Abbazia, which possesses relics 1500 years old, and whose bishops were once rivals of the Pope. The promenade along the sea front is six kilometres in length, and beautiful sands, together with the absence of violent changes in the weather, combine to make it a first-class seaside resort for the anæmic and the neurotic; 20,000 visitors were counted in 1904, amongst them being the Emperor William II. of Germany. There is also Grado, facing south, which with miles of sand and with hours of brilliant sunshine is an ideal place for children. Grado has the best record of sunshine in Austria and is one of the warmest places on the coast. Ancient churches with gravestones from the year 530 prove the age of the town; the concentrated sea-water is very good for scrofulosis and has been known and employed for this purpose ever since that time. Then there are Locrana, Lussin, and Brioni, the last like the Isle of Wight, with a mild, somewhat moist climate and good accommodation, but a little out of the way of the general traffic. In fact, all the watering places of Dalmatia are only beginning to come to the notice of the medical profession as health resorts, but they have a good future before them, for the opportunities which they offer in respect to quiet, climate, influence of the sea, and the sub-tropical outdoor life are not to be found in the fashionable kurorte.

BRITISH MEDICAL BENEVOLENT FUND.

AT the last monthly meeting of the committee 13 applications for assistance were received and sums amounting to £104 were voted in relief to 11 of the cases. Two vacant annuities of £20 were filled by the election of candidates from the selected list. An abstract of the cases to which help was given is appended.

1. M.D. (Aberdeen), aged 54 years. Used to practise in London but was obliged to give up a few years ago and is now making a fresh start in the country. Is promised some help by a friend. Two children, the younger at school. Voted £10.

2. Widow, aged 46 years, of M.D. (Glasg.). Only income a few shillings a week. Two children, aged five and three years. Voted £10.

3. Widow, aged 56 years, of L.R.C.P. Edin. Income £10 a year;

London, and that it does not propose to abandon the teaching of the preliminary and intermediate subjects under these circumstances."

I am to add that this decision must not be construed as adverse to the principle of the concentration of the preliminary and intermediate medical studies in the University, but solely as directed against the particular proposals for concentration indicated in the resolution.

Believe me, Sirs, yours faithfully,
June 11th, 1907. HERBERT L. EASON, Dean.

A SOCIETY FOR THE PREVENTION OF VENEREAL DISEASES.

To the Editors of THE LANCET.

SIRS,—*Will you kindly allow me to ask your correspondent*, "H. N. R.," if he has read the report of the Departmental Committee of the Local Government Board on the deterioration of public health? Has he also read the many articles, annotations, and letters which have appeared in your columns showing the inadequacy of hospital accommodation for venereal diseases throughout the whole of the United Kingdom? Consideration for your space induces me to ask him to send me his name and address; I can then send him additional information which he may find useful.

I am, Sirs, yours faithfully,
FRED. W. LOWNDES.
42, Knight-street, Liverpool, June 11th, 1907.

THE HOSPITAL FUNDS AND THE EXCLUSION OF SCOTTISH DIPLOMATES FROM THE MAJORITY OF LONDON HOSPITALS.

To the Editors of THE LANCET.

SIRS,—*On behalf of the council of the Association of Medical Diplomates of Scotland I beg to draw your attention* to what we consider a grave injustice to those holding the diploma of the Scottish colleges. We refer to the clause in the laws of many medical charities of the metropolis making the possession of a London qualification an essential condition of election to a post on the honorary medical and surgical staffs. The effect is to make those posts a monopoly in the hands of certain London corporations. We submit that this practice inflicts a gratuitous injury upon the diplomates of the Scottish colleges who have obtained their legal qualifications after stringent examination. We submit that the exclusion of which we complain is contrary to the elementary grounds of justice and that its result, if not its intention, is to swell the ranks and to increase the revenues of certain London corporations at the expense of rival colleges, of Scottish diplomates, and, as we think, of the community in general. This arbitrary practice is, in our opinion, a *relic of class* privilege absolutely out of touch with the trend of modern thoughts and ideas and one calculated to close the door to many a fine career and in the long run to inflict injury upon the public by narrowing the field of competition. If the London qualification be of such supreme excellence why should their holders fear competition in the open market? Why resort to such a weapon as disqualification of all Scottish and Irish competitors? This exclusion of Scottish diplomates from the majority of London and provincial hospital appointments has been going on for many years. Our present object, however, is to draw attention to its revival in an insidious form and its imposition by a side issue upon two institutions that previously welcomed Scottish diplomates to their honorary staffs. *We wish to show how the Hospital* Sunday and King Edward's Funds have helped, doubtless unwittingly, to bring about that injustice.

There were lately three London orthopædic *hospitals*—the Royal, the City, and the National. The above-mentioned funds have for some years *pressed the* policy of amalgamation upon these hospitals by every *means in their* power. Of these three hospitals the Royal and the City admitted Scottish diplomates to *their staffs*, while the National excluded them. All three institutions are now amalgamated. It *seems incredible* that the funds should have permitted the new charter of the consolidated *hospitals* to exclude Scottish diplomates. Such, however, has been the *case. In* other words, the National Orthopædic Hospital has been enabled to force its exclusiveness upon *the other* two partners in the new institution. One holder of a *Scottish* qualification has been allowed to join the new staff, apparently in defiance of the charter. Another *member of the City Orthopædic has been denied any staff appointment* in the new institution on the ground of not possessing a higher English qualification. That gentleman naturally protested against his exclusion. To investigate the facts of the case Sir Edmund Hay Currie was appointed arbitrator. His report stated that: (1) the charter could be amended; (2) that an exception should be made in favour of the gentleman concerned; and (3) that the conditions as to qualification would doubtless be retained in the new charter.

We submit, Sirs, that this charter in its present form is unjust, inasmuch as it excludes Scottish diplomates. We submit further that its amendment should be made to cover not only the specific hard case of a single Scottish diplomate but to throw open all staff appointments to all registered medical practitioners.—*I am, Sirs, yours faithfully*,

CLAUDE ST. AUBYN-FARRER, President.
Charles-street, W., May 31st, 1907.

THE ESTIMATION OF SUGAR.

To the Editors of THE LANCET.

SIRS,—An annotation in THE LANCET of May 25th describes Swietecki's method of ascertaining the amount of sugar in urine by the tint obtained by boiling with an alkali. This is, of course, a quantitative application of Moore's test. The method, in a much less elaborate form, which has been long available, deserves to be more widely known on account of its extreme facility. I worked it out with glucose many years ago and communicated it to Sir Lauder Brunton, who quoted it in his article on "Diabetes" in Reynolds's "System of Medicine," Vol. V., 1879, p. 395. *It is also given by Dr. R. W.* Leftwich in his "Index of Symptoms," third edition, and in Martindale's "Extra-Pharmacopœia." It enables an approximation to the amount of sugar to be obtained, without apparatus, in two minutes, and depends on the tint obtained on boiling *for 30 seconds* a mixture of equal parts of liq. potassæ and the urine. It is best observed by boiling the upper half of the mixture in a test-tube. If the mixture is still tinted the urine must (as you state) be decolourised, which is quickly done by filtering through paper on which a little animal charcoal has been sprinkled. The amount of sugar corresponds closely to the following simple tint scale. If lemon yellow, five grains per ounce; if pale sherry, ten grains; if dark sherry, 15 grains; if port wine colour, 20 grains per ounce and upwards. In the latter case it is necessary to dilute the urine with an equal part of water and repeat the process. I have often had a skilled analysis afterwards made and never found the amount differ much from the result obtained. I have tried to produce fixed colour standards, but the exactness obtainable seemed insufficient to compensate for the trouble. Not only is a precise comparison of tint difficult, but if the sugar is more than ten grains per ounce the colour is deepened unduly by too long boiling. No method of applying copper reduction to dilution can be made a practical speedy indication, but this quantitative use of Moore's test is a useful illustration of "the practical service of *imperfect* means."

It should not be forgotten that we owe the familiar "Moore's test" to a general *practitioner of Bourton-on-the* Water, Gloucestershire, who died not many years ago.

I am, Sirs, yours faithfully,
May 29th, 1907. WILLIAM R. GOWERS.

THE PROCEEDINGS AT THE RECENT MEETING OF THE GENERAL MEDICAL COUNCIL: A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In your report of the proceedings of the General Medical Council *of Thursday, May 30th*, in THE LANCET of June 8th, p. 1593, I am made out to have said that there is a lack of *opportunity* of obtaining midwifery cases for London students. *This is* a complete misunderstanding, as I opposed the resolution of Sir C. Ball to *reduce* the number *(20)* of cases of labour to be attended by each student; and I have never heard *that students* in London have had, or now have, the least difficulty in obtaining this number *of labours* to attend. *I said* that there was, and *would be for* some time, difficulty in obtaining *for the whole of* the students in London regular daily attendance upon the indoor practice of eight Scotch towns ranged from 17·2 in Edinburgh and 18·4 in Glasgow to 21·1 in Dundee and 29·9 in Perth. The 660 deaths in the eight towns showed an increase of 80 over the number in the previous week, and included 109 which were referred to the principal epidemic diseases, against 112, 92, and 91 in the three preceding weeks. These 109 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 1·6 the rate from the same diseases in the 76 English towns; they included 57 which were referred to whooping-cough, 26 to "fever," 13 to diarrhœa, seven to measles, four to diphtheria, two to scarlet fever, and not one to small-pox. The fatal cases of whooping cough, which had been 52, 39, and 38 in the three preceding weeks, rose again last week to 57, of which 37 occurred in Glasgow, seven in Dundee, four in Edinburgh and in Paisley, and two in Aberdeen and in Greenock. The deaths referred to "fever," which had been 41, 28, and 24 in the three preceding weeks, were 26 in the week under notice, and included 16 in Glasgow, five in Edinburgh, three in Leith, and two in Paisley; all these deaths, except one in Glasgow and one in Paisley, were certified as from cerebro-spinal meningitis. The fatal cases of diarrhœa, which had been seven, nine, and 14 in the three preceding weeks, decreased last week to 13, of which eight were registered in Glasgow, three in Dundee, and two in Aberdeen. The seven deaths from measles corresponded with the number in the preceding week and included five in Glasgow and two in Leith. Two of the four fatal cases of diphtheria occurred in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had declined from 127 to 82 in the five preceding weeks, rose again to 106 last week, and were 11 in excess of the number in the corresponding week of last year. The causes of 28, or 4·2 per cent., of the deaths registered in the eight towns during the week were not certified or not stated; the proportion of uncertified deaths in the 76 English towns during the same week did not exceed 1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 26·7, 25·8, and 23·1 per 1000 in the three preceding weeks, rose again to 23·9 during the week ending June 8th. During the first ten weeks of the current quarter the death-rate has averaged 26·5 per 1000; the mean rate during the same period did not exceed 15·2 in London and 17·7 in Edinburgh. The 179 deaths of Dublin residents registered during the week under notice were six in excess of the number in the preceding week, and included 11 which were referred to the principal epidemic diseases, against seven, 17, and 13 in the three previous weeks; of these, six resulted from measles, four from whooping-cough, and one from diphtheria, but not any from small-pox, from scarlet fever, from "fever," or from diarrhœa. These 11 deaths were equal to an annual rate of 1·5 per 1000, the rate during the same period from the principal epidemic diseases being 1·6 in London and 1·5 in Edinburgh. The fatal cases of measles, which had been six and four in the two preceding weeks, rose again to six in the week under notice; while the deaths from whooping-cough, which has been ten and eight in the two preceding weeks, further declined to four. The 179 deaths from all causes in Dublin last week included 27 of children under one year of age and 47 of persons aged upwards of 60 years; the deaths of infants were slightly in excess of the number in the preceding week, while those of elderly persons showed a considerable decline. Five inquest cases and five deaths from violence were registered; and 71, or nearly two-fifths, of the deaths occurred in public institutions. The causes of two, or 1·1 per cent., of the deaths in Dublin last week were not certified; in London the cause of only one death was uncertified, while in Edinburgh the percentage of uncertified deaths was 7·9.. The 161 deaths registered in Belfast during the week under notice included 10 which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: W. H. Daw to Gibraltar Hospital; and E. F. Mortimer to the *Vindictive*.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenant-Colonels retire on retired pay: George E. Twiss and John L. Hall (dated June 8th, 1907).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Charles Graham Grant to be Surgeon-Lieutenant-Colonel (dated May 28th, 1907). Surgeon-Major James Drummond, having been appointed to the command of the 3rd Durham Royal Garrison Artillery (Volunteers), ceases to belong to the Army Medical Reserve of Officers.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Captain (Honorary Captain in the Army) H. E. Mortis to be Major (dated April 24th, 1907).

CHANNEL ISLANDS MILITIA.

The Royal Militia of the Island of *Jersey*: Medical Company: Henry John Shone to be Surgeon-Lieutenant (dated May 25th, 1907).

VOLUNTEER CORPS.

Rifle: 1st Surrey (South London) Volunteer Rifle Corps: Surgeon-Lieutenant D. O. Kerr to be Surgeon-Captain (dated May 1st, 1907). 4th Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Supernumerary Surgeon-Lieutenant W. J. Woodman to be Surgeon-Captain, remaining supernumerary (dated May 2nd, 1907). 1st Volunteer Battalion the King's (Shropshire Light Infantry): Surgeon-Lieutenant-Colonel W. H. Packer is granted the honorary rank of Surgeon-Colonel (dated April 20th, 1907). 1st Herefordshire Volunteer Rifle Corps: Surgeon-Lieutenant J. N. Macmullan to be Surgeon-Captain (dated Nov. 1st, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Scottish Command: Aberdeen Companies: Lewis Davie Cruickshank to be Lieutenant (dated May 7th, 1907).

The annual inspection of the London Companies of the Royal Army Medical Corps (Volunteers), as well as of the Bearer Companies of 1st, 2nd, 3rd, and 4th London Infantry Volunteer Brigades, by Colonel Sloggett, C.M.G., will take place in Hyde Park (Guards' Ground) on Saturday, June 15th, at 5.30 P.M. The proceedings are expected to have additional interest from the inclusion of a field ambulance station and a demonstration of carrying patients in cacolets.

THE GOVERNMENT'S NEW ARMY BILL.

It is a matter of such wide extent and importance as to be especially noteworthy that on June 10th the Territorial and Reserve Forces Bill was again considered and finally passed by the House of Commons in committee. The Earl of Wemyss had on the same day in the House of Lords asked a number of questions as to the army having a distinct bearing on the new scheme and had been replied to by the Earl of Portsmouth. In the course of the debate in the Commons a good many important points were raised by the Opposition on amendments which were, however, defeated and the guillotine resolution then came into operation. All the clauses and schedules were adopted and, as we have already said, the Territorial and Reserve Forces Bill was successfully passed through its final committee stage.

Correspondence.

"Audi alteram partem."

THE MEDICAL SCHOOL OF GUY'S HOSPITAL AND THE CONCENTRATION OF EARLY MEDICAL STUDY.

To the Editors of THE LANCET.

SIRS,—The following letter has been addressed by the treasurer of Guy's Hospital (Mr. Cosmo O. Bonsor) to the Principal of the University of London:—

> As treasurer of Guy's Hospital I have to bring to your notice the following resolution passed at a school meeting on the 7th inst. and approved by me: "That, in view of the resolution of June, 1905, that the Medical School of Guy's Hospital is not committed to any particular line of action with regard to the concentration of preliminary and intermediate studies, the school now desires the treasurer to inform the Senate of the University of London that it is of the opinion that the proposed scheme of three centres for the teaching of such subjects at University College, King's College, and South Kensington, and the institution of internal examinations at these centres, would not be to the advantage of medical education in

the further attempt to acquire 1167 square yards in the surely ironically named Oxygen-street, and two other plots, one in Communication-road and the other in Lawford-street, for the purpose of making playgrounds for children in much congested districts, will also be accomplished. The total sum required is £12,500, and £7750 have already been promised. This includes two sums of £1000 each promised by the Smethwick town council and the Handsworth district council towards the purchase of the Black Patch which will be of great value to both districts as well as to Birmingham. Our city at present is woefully devoid of breathing spaces in its thickly populated areas but the activity of the young but very vigorous Open Spaces Society seems likely to change matters for the better in a comparatively short space of time.

The Crippled Children's Union.

The chairman of the union, Mr. Montgomery Hooper, was in a justifiably optimistic humour when he presented the annual report at a recent meeting, for the previous year's deficiency of £264 had been reduced to £33, and the work of the union had been dealt with in the usual way. Apparently one of the chief difficulties which the society has to face is that of making adequate provision for these cases which require a long period of treatment in the country, but it is intended to make a special appeal on behalf of these cases. The directors of the union desire, if possible, to establish a convalescent home capable of dealing with about 40 children. They already possess a site, but they are considering the advisability of selling it and acquiring another at a higher level. They calculate that they will require £5000 for the accomplishment of their desire and £3000 have already been given.

Birmingham Medical Mission.

Each year the ladies' committee of this deserving charity holds a sale of work for the purpose of adding to the too scanty funds of the mission, by means of which much suffering and sorrow are relieved. It was hoped that this year the sum realised would not be less than £250 The sale extended over two days. On the first day it was opened by Mr. Jowett and on the second by Dr. T. Stacey Wilson, and fortunately the result was better than the anticipation, for the total obtained was £278. This, after all, is but a small sum to be scattered over a very large area for the immediate relief of some of the suffering which is only too prevalent in our crowded areas.

Hospital Collections.

It is customary to make an annual Saturday collection in the West Bromwich and Oldbury districts in aid of the West Bromwich District Hospital. This year the sum collected in West Bromwich amounted to £928, or £9 more than last year, and in the Oldbury district £298 were collected which is also a slight advance on the collection of the preceding year.

Health of Handsworth.

In presenting his annual report Dr. R. A. Lyster, the medical officer of the Handsworth urban district, drew attention to the urgent necessity for the consideration of proper hospital accommodation and he pointed out the unsatisfactory position of the district should it be invaded by a serious epidemic. He also emphasised the unsatisfactory nature of the accommodation provided for the health department and he stated that the present staff was inadequate for the needs of the district. The death-rate for the year was 11·1, being slightly higher than in the preceding year, and the birth-rate was 22·6, as compared with 22·7 for 1905. The most satisfactory feature of the report was the low death-rate from tuberculous diseases, 0·86 per 1000, which is a lower rate for these diseases than the surrounding districts can show.

Health of Birmingham.

The death-rate of the city keeps in what may be considered a fairly satisfactory condition. Three weeks ago it was 14·6 per 1000, a week later it fell to 14·4, and last week it rose to 15·9. The only really unsatisfactory feature of our health at present is the continued prevalence of scarlet fever, measles, and diphtheria, in spite of all care and precautions. Last week the number of cases in the fever hospital decreased to 314 from 317, but it had risen in the previous week to the latter number from 312. The fluctuations are slight but the total number is greater than is desirable.

June 11th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Country Hospital for Chronic Diseases of Children.

Mr. Holbrook Gaskell has added to his many acts of philanthropy a splendid gift of £5000 to complete the fund for the building of the Liverpool Country Hospital for Children at Heswall. Mr. Gaskell has expressed a wish that in an appropriate manner it should be recorded in the hospital that the gift is in commemoration of the labours of Miss Sedgwick and Dr. C. J. Macalister in commencing and bringing to a successful issue the great work which has been the pioneer of similar institutions on the same principle. Mr. Gaskell has already presented to the hospital a memorial of the eminent services of Mr. Robert Jones in a fine operating theatre. The hospital has carried on its work since 1899 in temporary premises at West Kirby, and whilst wishing the Lord Mayor of London every success in emulating and even advancing upon what Liverpool has already accomplished it is mere justice to give Liverpool the credit of being the pioneer in the British Isles of the provision of an institution devoted to the care of crippled children. The predecessor of Liverpool in this matter was France. The United States ran Liverpool closely in following the French example. Dr. Macalister points out in a communication to the local press that more money is required to complete Liverpool's scheme. In response to the appeals of the committee, generous donors have contributed handsomely to the building fund. One gentleman, at his own expense, is building the administrative block at a cost of about £6000; an anonymous donor has given £5000, and many others have contributed largely; and now at Heswall the central and administrative blocks of what will probably be the finest children's hospital of its time in the kingdom are nearing completion. Dr. Macalister emphasises the fact that not one penny has been spent on useless ornamentation. The hospital building is extremely plain, but internally its construction is as perfect as thought and experience can make it. It will, when fully completed, accommodate 200 children and will be worthy of the city with which it is connected. The *Liverpool Daily Post and Mercury* points out that "the institution owes its existence almost as much to Mr. Holbrook Gaskell and Miss Gaskell as to Dr. Macalister and Miss Sedgwick. They warmly accepted the idea. They saw its distinctive excellence and its humane capabilities. Their devotion to it was steadfast. Their encouragement sustained its working promoters."

Civic Grant to the University of Liverpool.

The report of the Treasury Commissioners on the work of the University has just been issued and is most satisfactory. The Commissioners state that the University is performing its functions with efficiency. "It is a university in the fullest sense of the term, providing a broad and generous education on the older as well as on more modern lines." This statement must be pleasing to the city council, in that it assures it that its grant is well spent. The report deals with the excellence and quality of the research work which is carried on at the University. There is one suggestion made by the Commissioners which might with advantage be adopted by the city council. The Treasury makes its university grants for a period of five years, and it would be a great convenience if this practice were adopted by the city council. It would assure the University council of the amount of money at its disposal if the civic grant were made a quinquennial instead of an annual one. The annual income of the University is now £61,000 drawn from four sources. Over £17,000 a year are derived from endowments, £15,000 from students' fees, £2000 from annual subscriptions for various purposes, and £26,000 from public funds. About one-half of the public money comes from the Government; the other half is supplied by the corporations of Liverpool, Birkenhead, and Bootle, and the county councils of Lancashire and Cheshire. Over £11,000 are devoted annually to the maintenance of the buildings and the provision of service and equipment and materials for the scientific laboratories, and £6000 for scholarships and fellowships. The proposal to renew the annual grant of £10,000 to the University came before the city council at its meeting on June 5th and was carried *nem. con.* The report of the Treasury Commissioners appeared at an opportune time, considerably strengthening the hands a lying-in hospital, or the lying-in wards of a general hospital.—I am, Sirs, yours faithfully,

HENRY MORRIS,
Representative of the Royal College of Surgeons of England on the General Medical Council.
Cavendish-square, W., June 11th, 1907.

A REPUDIATION.

To the Editors of THE LANCET.

SIRS,—It has just come to my notice that reprints of an article I wrote recently have been circulated with a trade advertisement. This was done without my knowledge or consent, and I have already insisted upon its discontinuance. I should be much obliged if you would publish this in the next number of THE LANCET.

I am, Sirs, yours faithfully,
Edgbaston, Birmingham, June 8th, 1907. W. A. POTTS.

VALUE OF HIGH-FREQUENCY SPARK AS A LOCAL APPLICATION.

To the Editors of THE LANCET.

SIRS,—Dr. Morton's note on high-frequency current as a stimulant for the growth of hair is interesting. I may say that I first used high frequency to the scalp in June, 1902. The patient was a lady, about 30 years of age, who had some early osteo-arthritic changes in the small joints of the hand and came to me complaining of slight seborrhœic rash on the face and considerable thinning and falling of hair. The results were brilliant. A thick growth of hair of good quality ensued, but unhappily the same application failed afterwards in apparently similar conditions. Now and then I find it useful in cases of premature partial alopecia, but not where the baldness is complete. To the latter statement there is an exception in the case of alopecia areata, in which hair often grows rapidly under the influence of the high-frequency current. But then, it should be remembered, it responds equally well to other forms of electrical current that redden the scalp. I have not found the high-frequency current of much use in cases of universal alopecia, whereas the continuous current is often satisfactory and invaluable. This latter fact was pointed out to me by my friend and colleague, Dr. Arthur Harries, who has done much work with the continuous current.

It seems to me that there remains a great deal to be solved in the etiology and pathology of alopecia areata, and that to some extent the key may be found in the therapeutic effects of various forms of electrical treatment.

I am, Sirs, yours faithfully,
London, W., June 4th, 1907. DAVID WALSH.

PS.—I may add that the high-frequency current was applied by contact with a water-filled glass electrode and in area cases also by a metal electrode with an air gap.

SOME MORALISING ON THE WEATHER.

To the Editors of THE LANCET.

SIRS,—The proverbial uncertainty of the English climate may cause a recapitulation of the unpleasant effects which its vagaries bring about to seem the whipping of a jaded horse, but the recent lamentable behaviour of May as exposed in an interesting leading article in THE LANCET last week surely affords a sufficient text upon which to hang some such reflections, the more especially as at present her successor has shown no sign of repentance. It may perhaps seem especially a warning of supererogation again to insist on the extreme importance of going warmly clad in a season when there may be a difference of 20 degrees of temperature on consecutive days, but in spite of oft-repeated warning of ancient adages and modern medicine every early summer claims its toll of lives amongst those who have neglected to profit by them. It is obviously a difficult matter to regulate the underclothing to the exigencies of such weather as we have recently experienced, but the old rule is the safe one, to be prepared for the worst, even though it involves severe discomfort in the unforeseen event of a sudden day of sunshine. To all who have passed through an attack of influenza during the late winter this counsel is of vital importance, for they are especially liable to the unwelcome ministrations of the *pneumococcus*, and in persons predisposed to tuberculosis a month such as the last should prove a fertile time for the seed-sowing of that malady. The continuation of the various catarrhs that winter visits upon our mucous membranes is a less serious, but still a very unwelcome, result of the weather and is well worth guarding against.

But not the least of the ill-effects of a summer *manqué* is the moral one of starting day after day with a personal sense of irritation against the elements. Not even the egregious optimist who cheerily breaks the ice on the Serpentine for his December plunge greets a bleak and gusty day of June with approbation. The beginning of the day in this irritated state of mind must needs react upon the work that is to do. That work is more unwelcome, and set-backs in its accomplishment are doubly vexing, which is only another way of saying that it is harder and that to do the usual amount is accompanied with unusual fatigue. The medical practitioner knows that this is the state of mind and body which leaves a man susceptible to pathological attacks and woman no less so than man, while woman's particular work is much affected by a winterly summer. For in the domestic sphere the restarting of fires after the sweeping and garnishing incidental to spring cleaning proves a grave trial to the careful housewife rejoicing in her dustless carpets and cornices, or the no less careful parent who has stored away carefully all her children's winter clothes.

There are oft-repeated circumstances pointing to a relationship between unseasonable weather and suicide, but until the Registrar-General has spoken I do not know if any increase in the number of suicides can be adduced to justify this denunciation of the May just gone. But I shall be surprised to learn that medical practitioners have not found it their general experience that during the month minor ailments were more obstinate than usual against treatment, even when their etiology had no definite connexion with climatic conditions, and that, speaking generally, the sick, whether seriously or only trivially affected, have shown decreased powers of resistance.

I am, Sirs, yours faithfully,
June 10th, 1907. M.B.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

ALTHOUGH it is not yet the middle of June the summer session seems to be rapidly approaching its termination, for the examinations have commenced, and, indeed, the third medical examination, including materia medica and pathology, has already terminated, about three-fourths of the candidates having been successful in both subjects. The early commencement of the examinations might appear at first sight to be a distinct disadvantage to the students, inasmuch as it lessens the period of preparation as compared with other schools; nevertheless, as the system has worked well in the past there does not seem to be any obvious reason for changing, and it has the advantage of providing a long summer vacation which, to a certain extent, compensates for the short spring recess. The post-graduate lectures have been even more than usually successful this summer. Professor R. F. C. Leith lectured on the Present Position and Value of the Widal Reaction, Dr. C. J. Lewis dealt with the Bacteriological Diagnosis of Diphtheria, and Dr. J. Miller with Opsonins. Each subject was fully considered, all the latest facts being placed by the lecturers before their large audiences in a clear and concise manner, so that everyone could readily form his own opinion of the practical value of the processes dealt with. The last lecture, by Dr. John Robertson, on the Value of Preventive Methods against Infectious Diseases, was to have been given on June 13th, but it has been found necessary to postpone it for a week; it will be delivered therefore on Thursday, June 20th, at the usual time.

Birmingham Open Spaces and Playing Fields Society.

In a previous letter I drew attention to the attempt that this energetic society was making to secure the Black Patch as an open area in a crowded district and there is now no doubt that the attempt will be successful. It is probable also that advance that had been made in the subject within the last 16 years Dr. Jones pointed out that this had been greatly facilitated by the unlimited supply of electricity now available, owing to the energy of corporations and public companies. 12 years ago it had been quite a common occurrence for an electrical specialist to be asked to attend at a bladder examination with his cystoscope but so widespread had the knowledge of these previously little known appliances become that the rôle nowadays of the electrical specialist seemed to be to explore and to open up new fields and then to hand them over to the physician and surgeon. As regards diagnosis by means of electricity reference was made among other things to the diagnosis of obscure peripheral nerve lesions, cervical ribs, tubercle in the lungs, aneurysm of the aorta, and fracture of the base of the fifth metatarsal bone. In passing it was suggested that the present methods of electrical testing of nerves and muscles were antiquated and unsatisfactory and would have to be put on a better basis. In connexion with treatment Sabouraud's method of dealing with ringworm was described, also the treatment of rodent ulcer, tuberculous glands in the neck, and leucocythæmia by x rays. The treatment of cutaneous nævus by sparking with high-frequency sparks so as to produce a superficial burn was recommended, but skill was needed, otherwise it was impossible to prevent blistering and scar formation. Finally, reference was made to Leduc's method of ionic medication which has put kataphoresis on a new basis. The first essential of the treatment to be successful was to find out whether the substance to be introduced was an an-ion or a kat-ion. Of course, there were limitations to the applicability of this form of treatment. Ether and chloroform were not capable of introduction into the body in this way because they were insoluble in water without dissociation. Also some drugs owed their action to their concentration, and such drugs introduced diluted, as ions necessarily were, tended to lose their medicinal properties. This mode of treatment was being gradually developed and according to the lecturer it had great possibilities. In rodent ulcer good results had been obtained by using ions of zinc. For lupus ions of zinc, aniline, and fuchsin had been tried; copper and magnesium had also been made use of in the ionic method of treating warts and other superficial affections. A vote of thanks to the lecturer was carried on the proposition of the President of the Faculty of Physicians and Surgeons, Glasgow, seconded by Dr. Dawson F. D. Turner of Edinburgh.

The Tragedy at Montrose Asylum.

At the monthly meeting of the directors of the Montrose Asylum Dr. J. G. Havelock, physician-superintendent, submitted a statement regarding the tragedy which had occurred the previous week. He had assisted at a post-mortem examination on the man who was killed and it was found that the brain, the heart, and the kidneys were extensively diseased. The opinion was that the injuries received were insufficient to cause death in a healthy person. It was decided to institute an inquiry into the fatal assault and to ascertain if it might not be possible to make arrangements which would increase precautions during the night time. Once in two hours seemed to be rather long between the visits of attendants.

The Proposed Foresters' Convalescent Home for Scotland.

At the thirty-first annual conference of the Scottish Foresters' Federation which is being held in Aberdeen a report was submitted on the proposed establishment of a Foresters' convalescent home for Scotland. The report stated that the sum of £1989 was in hand for the purpose and members were urged to persevere in the work of raising funds. After a lengthy discussion the committee was given powers to add to its numbers and to look out for a suitable house and grounds for the purposes of a convalescent home, the committee to report to the next conference.

The New Water-supply for Aberdeen.

At the last monthly meeting of the Aberdeen town council it was resolved that Sir A. R. Binnie, M.Inst.C.E., and Mr. George R. Strachan, M.Inst.C.E., should, together with Dr. A. C. Houston, director of water examinations to the Metropolitan Water Board, be requested to report upon the subject of new or additional water-supply for the city.

Elgin Nursing Association.

At the half-yearly meeting of the above association it was reported that 246 cases had been dealt with during the past half year, as against 279 in the corresponding period of the previous year. The two nurses had paid 3681 visits. Reference was made to the donation of £500 which had been given to the association by Mrs. Woodhead, Hyde, a native of Elgin. The same lady has also presented a nursing home and some minor gifts. The association has a credit balance of £239.

June 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

University Education in Ireland.

THIS matter, which is to a large extent medical, still occupies attention in Ireland. The *Irish Times* having copied a statement which had appeared in the *Times* to the effect that the Government had definitely abandoned Mr. Bryce's scheme as regards the University of Dublin, the *Freeman's Journal* on the same day published a long list of lay Roman Catholics who were in favour of what they thought might be the Government proposal—i.e., that one Roman Catholic college would be established in connexion with the University of Dublin, to which its students could apply for degrees. You have had a certain amount of correspondence on the subject in your columns but I have seen no reference to one matter which cannot be denied. The Roman Catholic bishops and clergy, as far as possible, close all Government and Poor-law appointments in Ireland against medical men holding the University of Dublin degrees. It is deplorable that the public health of the country should thus be endangered by its unfortunate religious dissensions.

Apothecaries' Hall of Ireland.

At a general meeting of the Members of the Apothecaries' Company, held at 40, Mary-street, Dublin, on June 7th, Mr. G. R. Seymour Stritch being in the chair, it was proposed by Dr. Montgomery, seconded by Dr. T. D. Finucane, and passed unanimously—

> That the best thanks of the Company are hereby tendered to Colonel Adye-Curran, M.D., F.R.C.S., for his untiring and successful efforts on behalf of this Hall in the General Medical Council.

The Irish Medical Association.

The annual general meeting of the Irish Medical Association was held this year, on June 5th, in the ballroom of the Northern Counties Hotel, Portrush, Mr. J. S. McArdle of Dublin, the President, being in the chair. From the report presented and adopted it appears that a sum of £297 17*s.* 2*d.* is still due to the law agent for law costs. The income received, with the balance in hand at the close of last year, was £901 18*s.* 6*d.*, and the expenditure was £838 17*s.* 11*d.*, leaving a balance of £63 0*s.* 7*d.* There is a balance to the guarantee fund of £60 16*s.* 3*d.* At the close of the year 126 members were in arrears for 1906, amounting to £130 14*s.* 6*d.* The President in his address, after thanking the members for re-electing him, spoke encouragingly of the work of the association, and thanked the Local Government Board for the manner in which it had received them at all times. He said that there were men in different districts in Ireland who belittled the association, although they belonged to it—a line which he denounced as cowardly, if nothing worse. He had nothing to say against the British Medical Association but why put it up, as it was being put up by members of that Association, as a rival to their own! Having impressed the lesson of unity the President said that every opinion which had been expressed by commissioners of late tended to demonstrate that there should be segregation of the profession in Ireland. Finally, he urged that they should in the future lend their strength entirely towards first securing proper scales of salaries all over the country, which could only be done by individual effort which he strongly recommended. Mr. J. S. McArdle was re-elected President of the association for the coming year; Dr. L. Kidd, Dr. W. MacSweeny, Dr. F. W. Kidd, and Dr. R. J. Kinkead, Vice-Presidents; Dr. J. Donnelly honorary secretary; and Dr. W. J. Thompson treasurer. In the evening the members dined together at the Northern Counties Hotel, the President being in the chair. On the next day there was an excursion to the Giants' Causeway.

Cerebro-spinal Meningitis in Belfast.

During the week ending June 1st 22 cases of cerebro-spinal fever were notified, the same number as in the previous week. Since May 30th 17 cases were notified, as against 20 of the finance committee in its recommendation to the city council to renew the grant.

Queen Alexandra Sanatorium, Davos: Meeting at the Town Hall.

A meeting in connexion with the Queen Alexandra Sanatorium, Davos, was held in the council chamber of the Liverpool town hall on June 10th. In the absence of the Lord Mayor the chair was taken by Sir Alfred Jones, K.C.M.G., and amongst those present were Lord Balfour of Burleigh, Sir James Barr, Sir Edward Russell, and many influential citizens. Sir James Barr moved a proposition to the effect that a fund for donations be opened in Liverpool in support of the scheme for providing an English sanatorium at Davos, which was carried. Lord Balfour addressed the meeting and described the perfect sanitary conditions of Davos and its advantages generally. The scheme aimed at aiding the lower middle-class and they offered medical treatment, with board, residence, and all the concomitants for one and a half guineas a week, which was almost as cheap as the treatment received at home. Lord Balfour mentioned that other towns had contributed liberally to the fund. Belfast had given £700 and he thought Liverpool could easily double that sum.

Proposed New Small-pox Hospital at Birkenhead.

The Birkenhead town council had before it at a meeting on June 5th the proposals of the health committee to extend the infectious diseases hospitals at Flaybrick-hill. The medical officer of the Local Government Board stated that the board was not in existing circumstances prepared to consider the application of the Birkenhead town council for sanction to borrow money for the erection of additional ward pavilions on the present site, but would be prepared to consider the application as regards the alterations and additions to the administrative block, the erection of a lodge and discharging block, and the reconstruction of the laundry block with the necessary machinery, upon certain undertakings being given by the town council. The inspector had further impressed upon the members of the sub-committee the desirability of the acquisition by the town council as early as possible of a separate site on which to erect a hospital for the treatment of small-pox patients. The committee recommended the purchase for £1069 of a piece of land, containing nearly nine and three-quarter acres, at Willaston as a site for a small-pox hospital in the event of the scheme not being opposed by the Wirral district council.

The Medical Officer of Health of Bootle.

Mr. T. W. N. Barlow, the medical officer of health of Bootle, will be called to the Bar this month, having successfully passed his examinations in English law for students of the Inns of Court.

June 11th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

A Milk-borne Epidemic of Scarlet Fever.

THE medical officer of health of Cardiff (Dr. E. Walford) has recently reported upon the circumstances attending an outbreak of scarlet fever during the second fortnight in May. Of the 37 cases of the disease notified during this period in a particular district 21 were supplied with milk from the same dealer and upon investigation it was found that the daughter of the farmer who supplied the milk was suffering from scarlet fever and that two other members of the family had had sore throats but no other well-defined symptoms. About 13 per cent. of the 150 houses supplied from this farm were infected. The supply of milk was promptly stopped and the outbreak was checked. Cardiff is well supplied with accommodation for the isolation of scarlet fever patients and the inhabitants make good use of the facilities provided. In the last few years as many as 75 per cent. of the cases of scarlet fever notified have been removed to the city isolation hospital. Expressed in percentages of the cases notified the mortality was 5 per cent. in the year 1891 before the hospital was opened, but in 1906 it was reduced to 0·4 per cent.

Gelligaer and Rhigos Isolation Hospital.

It has been decided by the Gelligaer and Rhigos district council to erect an isolation hospital at a cost of about £11,000. A site has been purchased for £260. The district adjoins Merthyr Tydvil and a portion is essentially rural in character, though there are many parts with urban features, and there are large collections of workmen's dwellings in which proper isolation of infectious disease is almost an impossibility.

Carmarthen Asylum.

The committee of visitors of the Joint Counties Asylum at Carmarthen has elected Dr. John Richards as medical superintendent of the asylum in succession to Dr. Edwin Goodall who was appointed last year superintendent of the asylum now approaching completion at Cardiff. Dr. Richards is at present senior assistant medical officer in the Leicestershire and Rutland Asylum and was formerly assistant medical officer in the Derby Borough Asylum. The Carmarthen Asylum has accommodation for 630 patients who are received from the three counties of Cardigan, Carmarthen, and Pembroke.

The Question of a County Medical Officer of Health for Monmouthshire.

In a recently issued report upon the sanitary administration of Ebbw Vale, a colliery district in Monmouthshire, Dr. Reginald A. Farrar, one of the medical inspectors of the Local Government Board, recommended that a medical officer of health should be appointed for Ebbw Vale and the adjoining districts who should devote his whole time to public health work. This recommendation has been discussed by delegates from the district councils concerned and they have arrived at the conclusion that a joint appointment for a combination of districts is not desirable, and in a communication addressed to the Local Government Board it has been pointed out by the delegates that the sanitary authorities are making strenuous efforts to improve the sanitation of their districts. It is very much to be regretted that this decision has been come to, for in increasing localities such as those in the Monmouthshire valleys, where the districts, though under different sanitary authorities, are actually close together, it is especially important that there should be uniformity of administration. Dr. Farrar's recommendation, if adopted, would most certainly make for efficiency and would be really economical. The county council has endeavoured to come to the assistance of the district councils by asking the Local Government Board to agree to the existing system of part-time medical officers of health at small salaries, provided a county medical officer is appointed "to supervise the work of the local officers." In this last expression there is displayed deplorable ignorance of the duties of a county medical officer who is the sanitary adviser of the county council and not the superior officer of the medical officers of health of urban and rural districts.

Schools and Pulmonary Tuberculosis.

At a meeting of the Devon education committee held on June 6th, under the presidency of Sir Thomas Acland, it was moved that no person should be employed in any school under the control of the committee who was suffering from pulmonary tuberculosis. The feeling of the committee was in favour of the proposal, but it was decided to refer the matter to a subcommittee in order that it might be carefully considered.

A Proposed Cornish Sanatorium for Consumptive Patients.

The Redruth board of guardians has been urging upon other boards of guardians in Cornwall the advisability of the Poor-law unions in the county uniting in the provision of a sanatorium for consumptive patients. The majority of the answers are not favourable to the proposition, the opinion being expressed that the guardians would derive all the benefits that they can wish by subscribing to the Didworthy Sanatorium on Dartmoor.

June 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

"The Really Useful in Electro-therapeutics."

AN interesting lecture on this subject was delivered on the evening of May 31st in the Western Infirmary, Glasgow, by Dr. H. Lewis Jones of St. Bartholomew's Hospital. There was a large and representative audience of medical men from Glasgow and the West of Scotland. In dealing with the emium will not be high, the sum of £1 yearly being fixed y the companies entitling the medical practitioner to a m of £4000 as a maximum in case of a claim for damages. part from this insurance, the Aerztekammer has secured r the local members of the profession personal insurance gainst accidents of all kinds, to include also attacks of fectious illness and syphilis if these diseases are contracted the course of professional duty. This will be a decided nprovement over the conditions in force hitherto, which ere so unfavourable for the practitioner that he was not able o obtain any compensation if he, for instance, in treating a atient suffering from typhoid fever or diphtheria, fell himelf a victim to one of these maladies. As a rule the comensation, which will be paid now to the insured practiioners, will amount to not less than £1 daily.

Molluscum Contagiosum.

At a recent meeting of the Dermatological Society Dr. Nobl showed a woman, aged 30 years, suffering from an nusual affection of the skin. On the left side of her chin here was a prominent, hard, flat tumour of the size of a hilling, round like a coin, imbedded in the skin, which at he site of attachment appeared pearl-grey. In the centre here was a scab, somewhat depressed, but fixed to the umour. The tumour appeared for the first time eight weeks ago and grew quickly in spite of the application of several kinds of ointment. The differential diagnosis between a primary syphilitic sore, an epithelioma, or a fibrous nævus and molluscum contagiosum, as the disease really was, depended on the absence of reaction in the neighbourhood and the extreme hardness of the mass. The rapidity of growth allowed the inference that the morbific agent was of exceptional virulence. In such cases transplantation of the molluscum was possible and has been successfully tried by Dr. Nobl himself. The diagnosis of the disease during the pre-histological epoch was often very difficult, as inveterate acne might simulate it very closely. The only treatment for molluscum was radical excision, which was a very simple procedure.

An Interesting Combination of Pathological Conditions.

In a subject dissected by Dr. Sternberg, the pathologist to the Brünner General Hospital, there was found associated in one patient a series of conditions of which each one was considered to be a rarity. First of all, there was an aneurysm of the descending thoracic aorta which had completely eroded two ribs on the left side and the left half of the vertebral column between the third and the seventh vertebræ, so that a soft tumour, palpable under the skin of the back, resulted. This tumour had been several times diagnosed as a cold abscess and had once narrowly escaped surgical treatment. The cause of death, however, had been a dissecting aneurysm of the ascending part of the aorta, which had permitted blood to ooze between the layers of the aortic wall into the pericardium, thus compressing the heart gradually. The aorta in this part showed signs of another rupture of the sac, which undoubtedly had taken place a long time ago and had healed up by scar tissue. After the scars had formed they became thinned until at last the dissecting aneurysm was established. Chronic aortitis was present throughout the whole length of the vessel, with many patches of calcified tissue. On the left foot the characteristic sore of perforating ulcer of the foot was found and tabetic changes of the spinal medulla were distinctly marked. Clinical manifestations during the life of the man were in accordance with the conditions found at the necropsy. Syphilitic stigmata were present and notwithstanding the denials of the patient syphilis was undoubtedly the basis of all these changes.

Report of the Vienna Polyclinic.

The thirty-fifth yearly report of the institution known as the Polyclinic in Vienna has just been published and shows that a large amount of work has been done during the twelve months in question. In 1872 the number of out-patients was 11,952, last year it went up to 69,527, and during the 35 years 1,500,000 new out-patients were treated. In 1887, when the in-patient department was founded, the number of in-patients was 80. Last year the institution had 150 beds and 2247 in-patients were admitted, 671 of them being children under 14 years. These patients included 119 cases of diphtheria admitted to the isolation ward; 112 of them received injections of serum but the remaining seven arrived medical aid. The mortality of diphtheria treated by serum injections has fallen to 3·3 per cent. of all cases injected. 1070 major operations were performed with a mortality of 4 per cent. 115 mastoid operations were performed in the otological department, with one death (a case of tuberculous otitis with meningitic complications). A new laboratory for x ray work has been provided. The institution is one of the very few in this city the income of which is derived from charitable contributions or bequests. For the first time since its erection the expenditure exceeds the income, so that a deficit of about £3000 remains. The polyclinic comprises, as its name states, departments for all branches of medicine and the heads of departments are either extraordinary professors or *privat-docenten*. It is a rule that only first-class men are appointed to these posts, as the institute is in close connexion with the university and the lectures delivered in it are well attended by graduates from all countries. It stands even higher in the public estimation than the general hospital, for with the exception of the heads of departments the staff of the polyclinic are mostly engaged in general practice and the hours of consultation at the polyclinic are more convenient for the public than at the general hospital.

June 10th.

CONSTANTINOPLE.

(From our own Correspondent.)

The Thermal Springs of Turkey.

The authorities last year decided to gather all the necessary data and information concerning the thermal springs of the Ottoman Empire, with the view of publishing their therapeutic properties, composition, mode of access, and the like. The question was also considered of opening comfortable hotels at the watering-places, of constructing new roads of communication, and of rendering, in other ways, the thermal springs attractive to the general public. This rather extensive scheme is, however, still unrealised, although plans for putting it into operation were published only recently. As usual in Turkey want of funds is the stumbling-block. Yet the accomplishment of the above plans could, in a comparatively short time, be a fruitful source of revenue to the Ottoman State treasury, the more so as many of the Turkish thermal springs, especially those scattered throughout Asia Minor, are either near the main railway lines or situated in proximity to the sea. The vilayet of Hudavendighiar, a neighbouring province to the metropolis, is the most remarkable and the best adapted for the exploitation of its hot springs. The town of Brusa, for instance, the ancient capital of the Ottoman Empire, has long been famous for its hot iron and sulphur springs which have a temperature ranging from 112° to 178° F. Every year in the spring months it attracts numerous people and many tourists from Europe. Another much frequented thermal place is Courz-les-Bains-Yalvoa. Patients suffering from rheumatism, from diseases of the bladder, from some forms of paralysis, and from skin diseases are said greatly to be benefited by these baths. They are under skilful medical supervision and of recent years several new establishments have been added and the old Roman baths have been improved. Yalvoa is also visited by people suffering from different nervous complaints. It is within easy reach of Constantinople, commands a magnificent view over the Sea of Marmora, and has pure, exhilarating air. It is a real country place, with the advantages of a bathing resort equipped more or less in a modern style.

Mortality Returns.

Last week 238 people died in Constantinople, of whom one died from scarlet fever, two from small-pox, five from enteric fever, 52 from tuberculosis, and three from cerebro-spinal meningitis.

June 7th.

Cardiff Infirmary.—Up to the present £9267 have been received towards the £30,000 required by the committee of the Cardiff Infirmary for the purpose of erecting a new wing and making other required additions to the institution.

during the previous week, bringing the total up to 482; and during the week ending June 1st 14 deaths were reported, a decrease of six, as compared with the previous week. The total number of deaths since the beginning of the outbreak was 350. The cases are now milder and it is hoped by the medical officer of health that the worst of the epidemic is perhaps over. Of the 81 patients in Purdysburn Fever Hospital on June 6th 41 were cases of cerebro-spinal meningitis.

Royal Sanitary Institute Conference.

A conference on sanitation and public health has been arranged by the Royal Sanitary Institute to be held in Trinity College, Dublin, from June 25th to 29th next.

June 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Influence of the Emotions in Hæmoptysis of Tuberculous Origin.

AT the Society of Internes of the Paris Hospitals on May 23rd M. Boisseau reported the case of a young girl suffering from tuberculosis who had at the beginning of the disease two "vicarious hæmoptyses" (*supplémentaires de règles*) and five hæmoptyses following emotional disturbances; they always followed immediately on the entrance into the patient's room of a certain friend of the family with whom she was violently in love and whose visits invariably caused her great agitation. During the attacks of hæmoptysis she had some congestive râles and a slight evening rise of temperature, but these symptoms only lasted a few days. The attacks exactly corresponded with those described as hysterical hæmoptyses. They were, however, undoubtedly of tuberculous origin, for later Koch's bacillus was found in the sputum and the patient died from acute double tuberculous broncho-pneumonia. Although she was a very emotional girl she showed no other symptom of hysteria. This case tends to prove that so-called hysterical hæmoptyses have no really distinctive features and that they cannot be diagnosed from some tuberculous hæmoptyses; that only the combined presence of hysterical stigmata and absence of auscultatory signs of tuberculosis can justify the diagnosis of hysteria. And so on one hand the latency and frequent early arrest of tuberculosis, and on the other the association of this disease with a neurosis, give good grounds for thinking that most of the cases described as "hysterical hæmoptyses" are really of tuberculous origin occurring in hysterical subjects in whom the disease had been arrested.

Optical Treatment of Strabismus.

At the Academy of Medicine on May 28th M. de Lapersonne reviewed the optical treatment of strabismus. He does not advise operative treatment before ten or 12 years of age; the use of correcting glasses, the use of atropine drops, and the intermittent wearing of a bandage on the sound eye are the essential points in the treatment. Later recourse may be had to operative procedures, but it is necessary to supplement them by optical exercises with the aid of that very ingenious instrument called the diploscope invented by Dr. Remy. With the intelligent employment of the diploscope the cure of strabismus can be guaranteed and often in quite a few sittings.

Cardio-vascular Affections in Hereditary Syphilis.

At the same meeting of the Academy of Medicine M. Landouzy and M. Loederich gave an interesting account of some cardio-vascular lesions connected with hereditary syphilis. The case in question was that of a child, born at full term but who died within five weeks from broncho-pneumonia. A post-mortem examination showed that there were serious cardiac malformations, but these, despite their serious nature, incomplete interauricular septum, imperfect development of the aorta, and hypertrophy of the right ventricle, had given no signs during life, either physical or functional. The kidneys and the suprarenal bodies also showed the lesions associated with hereditary syphilis. There was no reason to suppose that they were due to either alcoholism or tuberculosis in the parents.

Vaccination in Algeria.

Vaccination has been made compulsory in Algeria during the first year of life and revaccination in the course of the eleventh and twenty-first years. Vaccination is also obligatory upon any person wishing to reside in the country. The vaccination organisation for each province is under the control of the prefect who nominates the medical men, the midwives, and the other officials who have to do with the vaccination service. Those who disobey the regulations render themselves liable to penalty.

Tramcar Tickets and Infectious Diseases.

Dr. Busquet, a medical man of Bordeaux, has recently been making some inquiries into the question as to whether infection could be conveyed by the tickets handed to passengers by tramcar conductors. He took great care to avoid any contamination of the tickets after he received them. Having provided himself with sundry double envelopes made of "bank" paper (*papier Joseph*) he exposed them for one hour to a heat of 180° C. Then he started on a round of journeys by the different tramways in Bordeaux. When he was given a ticket he tore off the corner by which he had held it and dropped the remainder into one of his sterilised envelopes. In all he received ten tickets from five conductors, all of which were defiled with saliva. Cultures were then made from the tickets, which showed the presence of numerous germs such as streptococci, staphylococci, pneumococci, and the pseudo-bacillus of Loeffler. White mice inoculated with some of the culture bouillon were gravely affected, and out of ten so treated eight died. Five white rats which were inoculated all died.

Monument to Théophile Roussel.

On June 5th the monument erected to the memory of Théophile Roussel was unveiled; the ceremony was performed by M. Fallières, President of the Republic. As is well known, Théophile Roussel devoted his whole life to improving the lot of foundling children (*assistés*) and protecting their interests. Speeches were made by the Minister of Labour, M. Viviani, who drew a picture of the beauty of Roussel's life; by the Prefect of the Seine, M. de Selves; and others. The proceedings were brought to a close by the distribution of prizes to the foundlings.

June 10th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Resignation of Professor Chrobak.

AT the end of the current summer term Professor Chrobak, the famous gynæcologist, will resign his post as ordinary professor and director of the gynæcological clinic in the University of Vienna. In his case the age limit of 70 years would not take effect for three years yet, but the state of his health has compelled him to relinquish the post occupied by him for many years, and his decision has been received with the greatest sorrow by his numerous pupils and patients. Professor Chrobak is famous for his correct and exact diagnoses, his conservative methods of treatment, and his great success as an operator. As a teacher he won the esteem and attachment of all his students. His successor will presumably be Professor von Rosthorn, at present director of the gynæcological clinic in the University of Heidelberg. The new professor will not have to teach in the present Vienna clinic, which is too small for the requirements of a modern surgeon, but will enjoy the advantage of being the first clinical teacher to take over the new clinic at present in course of erection, where an up-to-date institution awaits him and where every requisite for modern scientific research will be at his disposal.

Medical Defence and the Insurance of Medical Men against Accident or Injury.

The serious risks which a practitioner, especially a surgeon, incurs when his treatment does not prove satisfactory to the patient have led the Aerztekammer (Medical Council) to take a very praiseworthy step for the protection of the members of the profession. A committee has been appointed by the Aerztekammer for the purpose of entering into negotiations with several large insurance companies to obtain favourable rates for the medical men. The companies have consented to grant insurances against charges of malpractice and will provide counsel for the defence in all cases of this kind besides fixing an amount sufficient to cover all claims in each case; full particulars must in every instance be notified to the Aerztekammer, which will instruct counsel. The of £700 per annum from the University chest. This may or may not be augmented hereafter by a Fellowship in a College.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual general meeting of this association will be held at the Trocadéro, Piccadilly-circus, London, W., on Thursday, June 27th, at 6.30 P.M. At 7.30 the members and their friends will dine together, and as the dinner this year is to be of an informal nature evening dress will not be necessary. There will be a musical entertainment, and the honorary secretary will be glad to hear from any member willing to assist, either with vocal or instrumental music. The price of the dinner will be 7*s.* 6*d.*, exclusive of wine. Members may introduce friends and all Poor-law medical officers are cordially invited. Those desiring to be present are requested to communicate with the honorary secretary, Dr. M. Greenwood, at 144, Stoke Newington, London, N.

THE CORONERS' SOCIETY OF ENGLAND AND WALES.—This society held its annual meeting on June 11th, which was followed by a banquet in the evening at the Holborn Restaurant, London, W.C., under the chairmanship of Mr. Charles L. Rothera, coroner for the city of Nottingham, the President of the society. The company was very hospitably entertained and an excellent programme of vocal music was rendered between the speeches by the Princes' Quartette. After the loyal toasts had been given from the chair Mr. I. Bradley (coroner for Birmingham) proposed "Imperial and Local Government," to which Mr. J. H. Yoxall, M.P., responded. Mr. Alex. Macmorran, K.C., next gave the toast of "The Coroners' Society," and pointed out the great help which it afforded to its members in advising them on the many matters of difficulty arising in connexion with their ancient office. He showed that there was a real need for this assistance, as the office was not statutory, but that its powers could only be defined from the Common Law existing before Coke's day. The decisions embodied in the annual reports of the society were forming a body of information that could not be found in the text-books and were of the utmost value in administering coroners' law. Of late years the public respect for the coroner's office had increased with its responsibilities largely through the society's influence. In reply, the chairman also testified to the extreme value of the society's reports and alluded to the increased interest shown in its discussions by its members. It had frequently to defend its members from the attempts of county councils to encroach on their functions. The society might and ought to exert a powerful influence on legislation in such matters as the registration of deaths and the control of midwives. Dr. F. J. Waldo, coroner for the City of London, proposed "The Guests," for whom his honour Judge Bentoul and Mr. A. J. Davies, Permanent Secretary to the Welsh Department of the Board of Education, replied. Mr. Henry White proposed "The Past President and Present Officers," expressing the great debt of gratitude that the society owed to its very energetic secretary Mr. W. Schröder. Mr. G. P. Wyatt, coroner for South London, and Mr. Schröder, deputy coroner for Central London, replied. The latter gentleman said that reform on many subjects—e.g., death certification—was essential; the Lord Chancellor was carefully considering the proposals put forward by the London County Council to amend the law governing coroners, which he hoped would receive vigorous support; the suggestions were not new, as a medical coroner so far back as 1862 had employed special pathologists to perform necropsies. Mr. Schröder expressed his thanks to Mr. Benson for assisting him in preparing the annual report of the society.

THE JUBILEE INSTITUTE FOR NURSES: QUEEN ALEXANDRA'S COMMITTEE.—Her Majesty the Queen, who takes a deep personal interest in the work of her nurses, has nominated Adeline Duchess of Bedford in succession to the late Countess Cadogan as president of her committee charged with the financial welfare of Queen Victoria's Jubilee Institute for Nurses. Membership of Queen Alexandra's committee in 1906 was limited to 25 ladies who undertook to be responsible for raising £100 each on behalf of the institute. It was, however, felt too much to expect them to repeat such a task annually and a decision was arrived at and sanctioned by the Queen enlarging the committee to one comprising 200 members who would collect £10 each yearly whereby £2000 would be guaranteed annually. This larger committee was in course of formation when progress was stayed by the death of Lady Cadogan. The recent nomination will, it is hoped, shortly lead to the completion of the list of membership which in due course will be submitted to Her Majesty for approval. The work of the Queen's nurses who tend the sick poor in their own homes without distinction of creed becomes increasingly known every year. Support is always willingly given to district nursing associations when the nurses are daily seen in the active pursuit of their duties. Before a district can secure the skilled services of a Queen's nurse she has already cost the Central Institute from £30 to £40 for training in district or midwifery work. In addition, a large annual expenditure is necessary in the periodical inspection of each nurse and her work, which is regarded by the local committees employing Queen's nurses as a most valuable feature in the institute's work. The conduct of the institute in Scotland is under the control of a special Scottish council, aided by a large annual grant from the Central Council, which provides entirely for the administration of the work in England, Wales, and Ireland. At the beginning of the present year 1450 nurses were on the Queen's roll. These, with Queen's probationers, village nurses, and midwives bring the total to 2190 nurses who come under the supervision of the institute. The administrative work also involves the calling of important annual conferences on matters concerning district nursing, at which there are often from 200 to 300 persons present representing district nursing associations from all parts of the country. A large expenditure is necessary to maintain the work, and when it is realised that annually a deficiency of £2000 has to be met in keeping pace with the growth of the work financial support it is hoped will be given willingly. The honorary treasurer of Queen Alexandra's Committee, Mr. Harold Boulton, M.V.O., and the secretary, Mr. Reginald Garratt, will gladly reply to any inquiry as to the work on applications being addressed to them at the offices of the institute, 120, Victoria-street, London, S.W.

COMPLIMENTARY DINNER TO PRINCIPAL DONALD MACALISTER.—On June 4th a complimentary dinner was given to Dr. Donald MacAlister in the Combination Room of St. John's College, Cambridge, by the resident medical graduates of the University. The Regius Professor of Physic occupied the chair and among those present were: Sir Hector Cameron, Sir Robert Ball, the President of Queen's College, Cambridge; the following professors: J. N. Langley, J. B. Bradbury, J. J. Thomson, Howard Marsh, G. Sims Woodhead, G. H. F. Nuttall, and Brodie; Dr. W. H. Gaskell, Mr. Adam Sedgwick, Mr. A. E. Shipley, Mr. F. G. Hopkins, Dr. L. Humphry, Dr. L. E. Shore, and others. Professor Allbutt, in proposing the guest of the evening, pointed out that the University was losing a great pioneer whom it could ill spare, and described how the Scotch usually took the cream off the English bowl, though in securing Dr. MacAlister as a Scottish principal they were getting some of their own back. After paying a high compliment to the poetry, romance, and literature of Scotland, he went on to dwell on the celerity of business, the financial progress, and the general efficiency of the General Medical Council since Dr. MacAlister had become the President of that body, adding that he was glad to think that the principal of the University of Glasgow would still continue to represent Cambridge on that Council, and concluding with reference to Lord Kelvin and the late Sir Richard Jebb, illustrious Cambridge Glaswegians. Dr. MacAlister, in reply, said that he had spent 26 years in Cambridge in the medical school and University. He remembered how he had been hampered by being Senior Wrangler and how he had had great difficulty in living down the part by ignoring the claims of mathematicians and cultivating the realms of science and medicine. In 1877, when he joined Cambridge as a medical student, there were only 40 "medicals" in the year, and only 100 students of medicine in the whole University. Last October 122 medical undergraduates matriculated and the total was 420. The number had increased on account of the modern equipment, the high standard required, and the enthusiasm and stimulation of the teachers. He touched lightly on his work on the General Medical Council and as chairman of the special board for medicine in Cambridge. His only difficulty when he had 24 hours in which to decide whether or not he should accept the position of principal of the University of Glasgow was the resignation of the chair of the General Medical Council, which he thought that his acceptance of the post offered

Obituary.

MAXWELL TYLDEN MASTERS, M.D. ST. AND., F.R.S.

THE death is announced of Dr. Maxwell Masters as occurring at Ealing on May 30th. Born at Canterbury on April 15th, 1833, he was the youngest son of parents of unusual ability who were much in advance of their time. Having entered as a medical student at King's College, London, he in due course passed the examinations of the Royal College of Surgeons of England and of the Society of Apothecaries of London and went to Oxford as subcurator of the Fielding Herbarium under Dr. Daubeny. In 1856 he commenced general practice at Peckham in partnership with Dr. Stokoe; this he relinquished after a few years to devote his whole time to scientific botany. In 1866 he became part editor of the *Gardeners' Chronicle* and sole editor from 1882 till the time of his death, thus having been connected with that journal for 41 years. Here he found work thoroughly congenial to his taste and was the animating personality in its fortunes, gathering around him as contributors all the leading men of science and horticulture in all countries. A man of wide culture and attractive personality, as became the successor of Dr. Lindley, one of his earliest works of importance was a volume on "Vegetable Teratology" issued in 1869 by the Ray Society; in 1870 he published a revised edition of Henfrey's "Elementary Botany." His scientific monographs are too numerous to mention, for he was untiring in his devotion to the science of his choice. He was lecturer in botany at St. George's Hospital from 1865 to 1868 and for several years acted as examiner in botany in the University of London and for the Society of Apothecaries. He was a Fellow of the Royal and Linnæan Societies, was a Corresponding Member of the Institute of France, and an Officer of the Order of Leopold, and was in one way or another associated with the leading horticultural and botanical societies in Europe and America.

DAVID MACBETH MOIR, M.D. EDIN.,

MAJOR, INDIAN MEDICAL SERVICE.

Major David Macbeth Moir, who died in Calcutta on June 7th, represented the third generation of a medical family. His grandfather, Dr. David Macbeth Moir, practised in Musselburgh where a statue has been erected to his memory. He acquired a great reputation by his literary work, much of which appeared under the author's pseudonym of "Delta." Major Moir was born in India in 1860, being the eldest of the family of the late Dr. Moir, who, after returning to Scotland, practised in St. Andrews. He studied medicine at the University of Edinburgh, where he graduated as M.B. in 1885. After becoming qualified he was made demonstrator of anatomy in the University of Edinburgh and held residential appointments in the Royal Infirmary, Chalmers' Hospital, Royal Hospital for Sick Children, and Royal Maternity Hospital, Edinburgh. A description of a case of avulsion of the fingers which appeared in THE LANCET of March 3rd, 1888, was written by him while at Chalmers' Hospital. In 1888 he went to India as surgeon-captain in the Indian Medical Service, having gained during his course of instruction at Netley Hospital a gold and a bronze medal and having passed second on the list of candidates for the army. In India he served with the Chin-Lushai expeditionary force in 1889–90 and was awarded a medal with clasp. He afterwards held various civil appointments, including one at the Presidency General Hospital, Calcutta, where he acted for the medical superintendent when the latter was on furlough. Reports of surgical operations performed by him in this hospital appeared in THE LANCET of Jan. 9th and April 24th, 1897. In 1898 he also published in our columns two articles giving a summary of 193 cases of gunshot wounds treated by him at Rawal Pindi. In 1899 he took home leave for a year, during which he graduated as M.D. at his University, receiving high commendation for his thesis. In March, 1900, he was promoted to the rank of major. After his return to India he continued to hold civil appointments and was eventually made professor of surgical and descriptive anatomy in the Medical College, Calcutta, and became *ex-officio* surgeon to the hospital of the college. He therefore had every prospect of a most promising career, which has been abruptly terminated by his sudden and untimely death.

Medical News.

UNIVERSITY OF CAMBRIDGE.—By the death of Professor Alfred Newton, F.R.S., Professor of Zoology and Comparative Anatomy since 1866, the University loses an accomplished naturalist who in the domain of ornithology was acknowledged to be of the highest authority.—Professor G. H. F. Nuttall announces that the Secretary of State for the Colonies is prepared to make a grant of £100 a year for two years for the purpose of establishing a research studentship in medical entomology in the University. Applications are to be sent to Professor Nuttall by June 17th.—A Balfour studentship in Animal Morphology, of the value of £200 a year for three years, will be vacant at Michaelmas. Applications are to be sent to the Registrary, Cambridge, by Oct. 1st.—Dr. G. S. Graham-Smith, Professor Nuttall, and Professor G. Sims Woodhead are appointed delegates to the International Congress of Hygiene and Demography to be held in Berlin in September next.—Dr. L. Humphry has been nominated as assessor to the Regius Professor of Physic for the ensuing academical year.—At a Congregation on June 6th the following degrees were conferred:—

M.D.—W. E. Moore Ede and G. R. Rickett, King's; J. Wharton, St. John's; E. H. Harrisson and B. Hudson, Clare; C. R. Howard, Pembroke; and S. L. O. Young, Christ's.

M.B. and B.C.—H. J. Clarke and G. G. Packe, Trinity; and L. Nicholls, Downing.

M.B.—W. H. R. Sutton, Downing.

B.C.—A. T. Densham, St. John's; and G. F. Greenwood, Sidney Sussex.

THE BELGRAVE HOSPITAL FOR CHILDREN.—A summer fair and Spanish market was opened at Prince's Skating Rink, Knightsbridge, on June 10th in aid of the Belgrave Hospital for Children, Clapham-road, London, S.W.

LITERARY INTELLIGENCE.—Dr. J. S. Milne has completed a long monograph on "Surgical Instruments in Greek and Roman Times," which will be issued from the Oxford University Press within a few days. The volume embodies investigations extending over several years and is fully illustrated. The author points out that many interesting operations described in detail in ancient authors are rendered obscure or quite unintelligible from lack of knowledge of the instruments employed, while no systematic attempt to reconstruct the different instruments used by the ancients has hitherto been made, this department of archæology having received scant attention.

UNIVERSITY OF OXFORD.—The following have been appointed public examiners in the branches of natural science indicated: W. N. Stocker, M.A., Fellow of Brasenose College, in Physics; N. V. Sedgwick, M.A., Fellow of Lincoln College, in Chemistry; W. Ramsden, D.M., Fellow of Pembroke College, in Physiology; and A. Dendy, D.Sc. Lond., in Zoology.—The Earl of Rosebery, Hon. D.C.L., Hon. Student of Christ Church, a Rhodes Trustee, unveiled a tablet to commemorate the foundation of the Rhodes scholarships, *in the Examination* Schools on June 12th.—The Herbert Spencer lecture for 1907 was delivered on June 5th in the Sheldonian Theatre by Francis Galton, Hon. D.C.L., M.A., Hon. Sc.D. Cambridge, F.R.S., Hon. Fellow of Trinity College, Cambridge, the title of the lecture being "Probability the Foundation of Eugenics."—The Margaret Ogilvie Reader in Ophthalmology announces his fourth annual summer course in ophthalmology, to be held from July 15th to 27th. The course (*fee £5 5s.*), which is not confined to members of the University, will consist of lectures and practical instruction and demonstrations by the Reader, assisted by a number of distinguished English and foreign ophthalmologists and others.—The electors give notice that they intend, if possible, to proceed to the election of a professor of pathology early in the month of July. Candidates are requested to send their applications to the Registrar of the University on or before *July 1st.* No testimonials are to be submitted, but candidates should send in, with their names, ten copies of a statement of their qualifications, accompanied by references or any other evidence which they may desire to offer. The professor of pathology is bound by statute to lecture and to give instruction in pathology. He also has charge of the pathological laboratory and of the pathological collections belonging to the University. He is not allowed to engage in private medical or surgical practice. The University guarantees an income of London inebriates to reformatories in suitable cases, so that the Inebriates Act might not be made largely inoperative so far as London was concerned.—Mr. Gladstone replied (by written answer): My attention has been drawn to the decision of the London County Council to discontinue its present provision for the reception of all classes of female inebriates and to restrict its work to a few selected cases eligible for Farmfield, and there is no doubt that if this policy is maintained the London magistrates will be deprived of the opportunity to commit female inebriates to reformatories save as regards a few isolated cases. I am about to communicate with the Council upon this important matter.

THURSDAY, JUNE 6TH.

Vivisection Licences.

Mr. Smeaton asked the Secretary of State for the Home Department whether, in addition to the two inspectors, Dr. Thane and Sir James Russell, and the Association for Research mentioned in the appendix of the first report of the Royal Commission now sitting, he had any other expert advisers in the matter of vivisection licences, and, if so, whether, in accordance with the recommendations of the Royal Commission of 1876 to the effect that the names of these advisers should be known to the public, he would inform the House of the names of these other expert advisers. Mr. Smeaton further asked the Home Secretary whether, if his expert advisers in the matter of vivisection licences consist solely of the Association for Research and the two inspectors, he would, in view of the opinions and advice tendered by the Royal Commission of 1876, add to his advisers some independent persons whose interests were not bound up with those of the vivisectors.—Mr. Gladstone said, in reply: As I have already informed my honourable friend the usual procedure in applications made to me for licences to perform experiments on living animals is set out in the appendix to the first report of the Royal Commission on Vivisection. Occasionally, where questions of great importance have arisen upon which it was advisable to obtain the opinion of the highest authorities, the Royal Colleges of Physicians and Surgeons and the Pharmaceutical Society have been consulted. I do not propose to make any change in the existing practice pending the report of the Royal Commission now sitting. The Commission of 1876 said that the advisers of the Secretary of State ought to be persons "of competent knowledge and experience" and the inspectors satisfy this description. I may add that no licence or certificate is granted without the recommendation of the eminent authorities mentioned in section 11 of the Act of 1876.

The Condition of Belfast Factories.

In answer to Mr. Devlin, who asked whether the Home Secretary was aware that many of the girls in the Belfast textile factories complained of the bad air in them and that the death-rate from consumption amongst the workers was high, Mr. Gladstone said that the conditions in the flax and linen factories in Belfast were recently made the subject of a special inquiry and new regulations had been issued which should lead to a considerable improvement in the ventilation and generally in the conditions under which work was carried out.

Medical Posts at His Majesty's Embassies.

Sir William Collins asked the Secretary of State for Foreign Affairs whether he would state to how many of His Majesty's embassies and consulates medical officers or advisers were attached, what were the medical and surgical qualifications required of candidates for such posts, and what were the salaries and conditions of service attached to each of them.—Sir Edward Grey furnished the following written answer: The salaries and allowances provided for medical officers are given in the estimates for diplomatists and consular services under the names of the various posts. The officers are duly qualified practitioners and those who receive allowances are usually selected on the spot. The following are the principal posts: Constantinople, £700; Peking, £650 to £703; Alexandria, £500; Tokio, £350; Tehran, £600; Bangkok, £250, and Zanzibar, £400. Quarters are provided at Peking and Tehran. Officers who take private practice are not pensionable.

The Plague in India.

Several allusions to the plague in India were made in the course of the debate on the Indian Budget.

Mr. Morley (the Secretary of State for India) in the course of his annual Budget statement, said that this was a prosperity Budget. He had, however, to admit that a black shadow fell across the prospect, for the plague figures were appalling. But let them not get unreasonably excited about the appalling figures. If they had reckoned the plague figures last September they might have hoped that this terrible scourge was on the wane. From 92,000 deaths in the year 1900 the figures went up to 1,100,000 in 1904, and they exceeded 1,000,000 in 1905. In 1906 a gleam of hope arose and the mortality sank to something under 500,000. The combined efforts of the Government and of the people produced that reduction, but, alas, since January, 1907, the plague had again flared up in districts which had been filled with its terror for a decade. For the first four months of this year the deaths were 642,000, and exceeded the record for the same period in any past year. Honourable members must remember that they had to cover a very vast area, and he did not know if these figures would appal them if they took the area of the whole of Europe. It was in 1896 that the plague first appeared in India, and up to April, 1907, the total figure of those human beings who had died from it was 5,250,000. But dealing with a population of 300,000,000 this great mortality, although enormous, was not at all comparable with the Black Death and other scourges which spread over Europe in earlier times in proportion to the population. The plague mortality, which was higher this year than in 1904, only represented a death rate of about 3 per 1000. It was local and particularly centred in the Punjab, the United Provinces, and Bombay. No one, he cared not to what school of Indian thought he belonged, could deny that measures for the extermination and mitigation of this disease had occupied the most serious, constant, unflagging, zealous, and energetic attention of the Government of India. But the difficulties which they encountered were enormous. It was possible that it might be said that afternoon by some honourable Members that the Government was not enforcing with sufficient zeal proper sanitary rules, but he was certain that other honourable Members would point out that the great difficulty in the way of sanitary rules being observed arose from the reluctance of the population to practise them. They were naturally suspicious and when all these new rules were forced upon them they naturally resented and resisted them. He would not detain the House with the details of all the proceedings they were taking. They had instituted long scientific inquiries with the aid of the Royal Society and the Lister Institute. Then they had very intelligent officers, who had done all they could to trace the roots of this [illegible] if they could, any means to prevent it. It was [illegible] appeared to be no immunity from this [illegible] there was an almost entire immunity [illegible] difficult to understand this immunity. The right honourable gentleman then proceeded to deal with other topics.

Dr. Rutherford, who took part in the subsequent debate, said that the plague was one of the chief causes of the unrest in India. It was a preventable disease. It had been brought under control in most countries and only in India had it had such awful effects. The Government had not, in his opinion, taken sufficient measures to cope with this terrible scourge. It had been advised by the highest medical authorities, with a knowledge of India, that it should engage a sanitary army composed entirely of Indians, so that there might be no degradation of Indian homes by the entrance of foreigners, to see that the sanitary requirements were carried out. In his opinion the Government of India could not better spend the surplus at its disposal than in providing such a sanitary army.

Mr. Hobhouse (the Under Secretary for India), speaking towards the end of the debate, said that no one could fail to sympathise with the people of India in the horrible infliction of plague which had fallen upon them. But that was not the hand of man. It was the hand of God.

Sir H. Cotton: Do not blame God for it.

Mr. Hobhouse said that no man was more moved by the sufferings of the people of India than was the Secretary of State. Let the House consider what the Indian Government had done to mitigate this misfortune. The subject had been engaging its attention. It had made careful inquiries and taken such measures as were within its power and as the state of the people would permit. The Government of India could not press the people too much, because this might rouse more dislike for the measures of relief than was likely to promote their success. The success of the measures depended upon the coöperation of the people themselves. It was freely admitted that in some ways the executive which dealt with the plague wanted strengthening. They were prepared to supply native medical men acquainted with the habits and customs of the people and sufficiently trained in sanitary science to cope with this great evil and also to supply native servants well acquainted with the measures to be taken for the relief of plague. One point greatly excited the interest of the people of India. They asked how it was that natives died in millions and Europeans by single individuals. It was easy to understand how in the minds of an ignorant and easily excited population suspicion might be aroused by the disparity in the numbers who died. Scientific investigations had shown that the plague was largely disseminated by the agency of rats and of the fleas which infested the rats, and it was a fact that rats were mostly found in native houses. A further cause of contamination was germs in the soil, and the natives, who walked barefooted, took up the germs from the earth, while Europeans were protected by their shoes. Laboratories were being widely established to meet all demands for inquiry and all possible means which human ingenuity could suggest and science could devise were being taken by the Government of India to cope with the evil.

FRIDAY, JUNE 7TH.

Tramway Tickets and Disease.

Mr. Summerbell asked the Secretary of State for the Home Department whether his attention had been called to an analysis of tramway tickets carried out by Dr. Busquet of Bordeaux, and the statement made in relation thereto that four out of five tramway tickets taken at random in Paris might transmit dangerous diseases; and, if so, would he state whether he was prepared to have an analysis of tramway tickets in London.—Mr. Gladstone (in a written answer) replied: My attention has not been called to this matter, and, as at present advised, I do not think there is any need to take such steps as the honourable Member suggests.

MONDAY, JUNE 10TH.

Insanitary Schools in Ross-shire.

Mr. Weir asked the Secretary for Scotland whether he would state in what way he proposed to deal with the sanitary defects in the public schools on the western mainland of Ross-shire and the Island of Lewis, as disclosed in the statement made by the medical officer of health of the county in his last report, to the effect that there was still much to do in the case of schools on the West Coast and the Lews, particularly with regard to the want of a due supply of pure water and the filthy condition of the cloakrooms and usual conveniences.—Mr. Sinclair replied: On the general question raised by my honourable friend I may refer him to the Local Government Board report for 1906. The annual report of the medical officer of the county of Ross and Cromarty goes to show that, supported by H.M. Inspector of schools, he is drawing the attention of school boards to such defects as exist. When cases of failure of school boards to act on the recommendations of the sanitary officials are brought to the notice of the Local Government Board it is the Board's practice to coöperate with the Scotch Education Department in securing improvements in the sanitary conditions of schools.

Colwyn Bay Drainage.

In answer to Mr. Weir, Mr. Burns stated that he was informed that the whole of the drainage of Colwyn Bay had been linked up with the new drainage system and that the old sewer outfalls had been done away with.

The Royal Commission on Sewage Disposal.

Mr. Thomasson asked the President of the Local Government Board whether the Royal Commission on Sewage Disposal, appointed on May 7th, 1898, was still sitting; if so, whether he could inform the House when it would issue its report on the bacterial or artificial methods of sewage treatment as distinguished from the natural method or land treatment; and when the final report would be issued.—Mr. Burns said: The Royal Commission is still sitting, and I understand that in its fifth report, which it hopes to issue before the end of the year, the methods of sewage treatment referred to in the question will be dealt with. I further understand that the investigation of the disposal of trade effluents when not mixed with sewage, which will to him would entail. His colleagues suggested that he should hold both and so solved that difficulty for him. Professor Marsh, in a witty speech, proposed "The Visitors," which was replied to briefly by Sir Hector Cameron for Glasgow who pointed out how glad they all were to have Dr. MacAlister as their principal, and that this was an experiment as previous principals had all been divines. Sir Robert Ball replied for the Cambridge visitors and spoke of the well-known facility which Dr. MacAlister possessed for the assimilation of foreign languages. Professor Bradbury, Professor Woodhead, and Dr. Shore also spoke briefly.

The Coal Smoke Abatement Society.—The report of this society for the year 1906 states that evidence is not wanting to show that the influence of the society is now far greater than has been the case during any previous period of its existence and that many manufacturers now regard the society as a friend rather than an enemy. Amongst the authorities of which the society has most cause to complain are mentioned the West Ham corporation and the Chiswick urban district council. The society has also reported a number of nuisances in connexion with Government factories but it appears that while private manufacturers can be compelled to adopt precautions for preventing the emission of black smoke the property of the Crown is for this purpose exempt from the operation of the Public Health Acts. The promoters of several electric power and supply Bills in Parliament have asked to be exempted from proceedings for nuisances, including nuisances caused by the emission of black smoke, but the society is confident that Parliament will hesitate to clothe the proprietors of electric generating stations with such exceptional powers, especially as it is stated that certain of them have been among the worst offenders in the metropolis. Evidence shows that the emission of black smoke from factory chimneys is very largely the result of inefficient stoking. Consequently the society has established courses of instruction in stoking at the Borough Polytechnic Institute and 90 stokers availed themselves of the opportunity to perfect themselves in their work. During the year 1906 1423 cases of smoke pollution were reported by the society's inspector and 1246 complaints were forwarded by the society to local authorities. During the year the society tested 47 grates and 32 gas stoves and the reports of the tests were published in THE LANCET. Finally, the society has made tests of "Coalite," a new patented fuel which is the invention of Mr. Thomas Parker, C.E., M.I.C.E. It is claimed to be ordinary bituminous coal treated in such a manner that the smoke-producing elements are completely extracted from it without impairing its value as a fuel. The results of these tests will be published shortly. The committee appeals for subscriptions to enable it to continue its useful work without the constant strain involved in endeavouring to meet the imperative expenditure with an income of less than £300 per annum. Subscriptions may be of any amount from 5*s.* per annum and should be forwarded to the secretary, Mr. Lawrence W. Chubb, 25, Victoria-street, Westminster, S.W.

West London Hospital and Post-Graduate College.—The annual dinner of the friends of this hospital, comprising the past and present medical staffs (honorary and resident), the post-graduate students, and the lay supporters of the charity, took place at the Trocadero Restaurant on June 12th, under the chairmanship of Mr. E. Lloyd-Williams, dental surgeon to the hospital. The dinner was throughout marked with the enthusiasm born of success. After the chairman had given the loyal toasts Dr. J. Barry Ball proposed in an amusing speech "The Imperial Forces." This having been responded to by Surgeon-General W. J. Charlton, A.M.S., the Chairman proposed the toast of the evening, "The West London Hospital," in the course of which he referred sympathetically to the recent severe illness of the Duke of Abercorn, the Chairman of the Board, but was able to announce that the distinguished invalid was progressing favourably. The toast was replied to by Mr. G. F. Marshall for the Board, by Mr. C. R. B. Keetley for the staff, and by Mr. E. M. Niall for the residents. Mr. Keetley was humorous and breezy as usual and protested against the indebtedness of the hospital being regarded in any way as a bogey, inasmuch as in his experience the hospital progressed under the stress of poverty and its accompanying strain and efforts. Lieutenant-Colonel A. W. Alcock, I.M.S., then proposed "The Post-Graduate College," from whose teachings he said a large number of his brother officers had derived the greatest possible benefit and he paid the management of the college high compliments on both the manner and the matter of the instruction given. To this toast the Dean of the College, Mr. L. A. Bidwell, replied with a statement showing the progressive prosperity of the institution and its cosmopolitan character, adding that the rivalry of other and newer post-graduate schools, so far from damaging the West London Post-Graduate College, appeared to stimulate men to join the older establishment. The toast of "The Visitors" was proposed by Dr. Donald W. C. Hood and responded to by Sir Richard Douglas Powell, Bart. The Chairman's health was then proposed by Mr. Stephen Paget, when a few words from Mr. Lloyd-Williams brought the proceedings to a close. Between the speeches Mr. Wilfred Pepper and Mr. Vernon Taylor gave a well-chosen selection of ballads.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Butter and Margarine Bill.

THE Butter and Margarine Bill has passed through Committee and has been reported to the House of Commons with amendments.

Teaching Hygiene in Schools.

A petition signed by nearly 200 Members of Parliament has been presented to Mr. McKenna, President of the Board of Education, supporting the appeal of medical practitioners that instruction in hygiene and temperance in public elementary schools should be specifically introduced into the curriculum of the code. Mr. McKenna on June 6th received a deputation headed by Lord Strathcona which urged this matter on his attention and also the establishment of a medical bureau in the Education Department. The right honourable gentleman, in reply, expressed sympathy with the views of the deputation. He pointed out, however, that until the Bill which contained provisions dealing with the medical inspection of school children had become law he could not declare the settled policy of the Board of Education on the subject.

Deaths from Tetanus in the Punjab.

The return moved for by Sir William Collins of papers containing the results of an inquiry into the origin of certain deaths from tetanus in the Punjab consequent on the employment of Mr. Haffkine's prophylactic against plague has been presented to Parliament.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 5TH.

The Wincanton Hospital District.

Mr. J. W. H. Thompson asked the President of the Local Government Board whether an order of the Local Government Board had been made, after inquiry held, whereby the rural district of Wincanton, Somerset, had been constituted a hospital district and an isolation hospital established; whether there were any other purely rural districts in which such a hospital had been permanently provided; whether he was aware that the almost unanimous feeling in the district was opposed to the establishment of a permanent hospital; and whether, in view of the evidence in opposition offered at the inquiry, he was prepared to reconsider this order.—Mr. Burns answered: An appeal was made to the Local Government Board against an order of the Somersetshire county council constituting the Wincanton rural district a hospital district under the Isolation Hospitals Acts. The Board after local inquiry issued an order dismissing the appeal and I cannot reopen the matter now. There have been several cases in which rural districts have been constituted hospital districts under the Isolation Hospitals Acts and many more in which permanent hospitals for infectious disease have been established in such districts under the Public Health Acts.

The Health of Miners.

Mr. Cochrane asked the Secretary of State for the Home Department whether the report and evidence of the Royal Commission which had been considering the health and safety of miners could be laid upon the table forthwith in order to prevent the delay which would occur owing to the decision of the Government that the scope of the Commission should be enlarged by reporting upon accidents in quarries.—Mr. Gladstone replied: The first report of the Commission, which deals with the use of breathing appliances, will be presented to Parliament this week and I am informed that the first volume of evidence is likely to be ready next week. A large number of questions connected with coal mines upon which evidence is now being taken remain to be dealt with by the Commission, and I understand that it intends to present its report upon these before proceeding to that part of the inquiry which relates to quarries.

The Treatment of Inebriates in London.

Mr. Pickersgill asked the Secretary of State for the Home Department whether his attention had been drawn to the fact that the London County Council had determined to terminate the arrangement which it entered into in 1904 with the National Institution for Inebriates, under which inebriates committed from London were sent to the latter's reformatories on condition that the more hopeful class of cases should be transferred to the Council's reformatory at Farmfield; whether the effect of this decision would be that London magistrates would be deprived of the opportunity of committing inebriates to inebriate reformatories, except as regarded a small number of strictly selected cases eligible for Farmfield; and what steps he proposed to take to render possible the continued committal set out in the memorandum, but I think I must draw the line at other objects, however desirable, for which your society may wish to see legislation passed.

Dr. HERON: May I then take the clauses of the Bill as they stand? He went on to say that his society thought that, although it was very desirable that joint-stock companies should be dealt with in the way proposed in the Bill, in embracing joint stock companies alone the scope of the measure was unduly limited. In this way many of the companies now practising would escape. They thought the Bill might be so amended as to bring these companies within its scope.

The CHAIRMAN: What are these other companies to which you allude?

Dr. HERON: Companies which are not joint-stock companies.

The CHAIRMAN: Within your own knowledge are such companies in existence?

Dr. HERON: Yes. We think it would be very easy for companies dealt with under this Bill to drop the words "joint-stock companies" and so put themselves outside the scope of the Bill.

The CHAIRMAN: I see your point.

Dr. HERON further said that one of the subsections of Clause I. of the Prohibition of Medical Practice by Companies Bill laid down that anything that would be an offence under the Medical Acts if committed by an individual should be an offence if committed by a company. His society found it very difficult to work the Medical Acts with a view to preventing malpractices. The Medical Acts hit very few men who did not pretend to be legally qualified. They dealt very effectively with the man who pretended to be legally qualified when he was not. He would suggest something should be added to make the scope of the Bill wider and to bring into its scope men who were unqualified.

The CHAIRMAN: I doubt if that is not a different object from that of the Bill. Do you come to tell us that there are a great many illegalities going on around us by unqualified men?

Dr. HERON: What I come here to say is that we accept this Bill with pleasure but we hope it is in the power of your lordships' committee to make the Bill a little more effective than it is.

The CHAIRMAN: Are you friendly to the lines the General Medical Council is taking?

Dr. HERON: Certainly. He further said that the British Medical Association requested his society to send a witness to give evidence before the committee.

Dr. A. G. BATEMAN, general secretary to the Medical Defence Union, then gave evidence. After giving some particulars as to the work of the Medical Defence Union he said that in the past 20 years they had prosecuted about 200 unqualified practitioners. The difficulties which they found in dealing with these unqualified practitioners were many. One of these difficulties would undoubtedly be got rid of if the Bill prohibiting practice by joint-stock companies was passed. That difficulty, however, was a minor one. Although there were a certain number of companies practising medicine under the protection of the Companies Act there were a much larger number of companies which were practising medicine and which were not under the Companies Act but which were equally immune from prosecution. There were literally hundreds of companies which would not be hit by the Bill. For one company of this kind under the Limited Liability Companies Act there would be 20 or 30 perhaps not under these conditions. He had a strong suspicion that malpractices, like the procuring of abortion, were carried out at some of the places at which these companies carried on business. However, no definite evidence could be obtained and therefore action could not be taken. His point was this, that although the Bill would have a good effect so far as it went it would only apply to companies under the Joint Stock Companies Acts.

The CHAIRMAN asked what amendments the Medical Defence Union had to suggest with respect to the Bill.

Dr. BATEMAN: The amendment we would like to the Bill would be a complete alteration of the title and a complete alteration of the clauses, so as to put a stop to medical practice for gain by persons who are not qualified. I am afraid that nothing else would be effectual. I am afraid that this Bill will have a very slight effect.

The CHAIRMAN: You say then that this Bill will do very little.

Dr. BATEMAN: I think it will have very little effect. These joint-stock medical companies will liquidate and will then become more or less private companies immune from prosecution. They cannot be touched by the Medical Acts, the Companies Acts, or by this Bill.

The CHAIRMAN: I am afraid, then, that this Bill has very few friends.

Dr. BATEMAN proceeded to state that the practice of some of these companies was not confined to the poor by any means. In one case which he had come across he had found that even general officers in the army had come forward to support what was nothing less than a fraud.

Mr. R. D. PEDLEY, who appeared as a witness from the London and Counties Medical Protection Society, strongly urged the suppression of dental companies.

Mr. H. ROWLAND BLUNT, who described himself as appearing on behalf of the National Association of Medical Herbalists, asked permission from the committee to tender evidence, on the ground that the Medical Bill would prevent that organisation from being carried on under the Companies Acts. He stated that the association was composed of medical herbalists for mutual protection. It had between 200 and 300 members.

The CHAIRMAN: Will you describe generally what your work consists of?

Mr. BLUNT: It is treating patients with herbal remedies who come to the shop or place of business.

The CHAIRMAN: Do you say your members have a large practice?

Mr. BLUNT: Some of our members have very fair practices.

The CHAIRMAN: An increasing practice?

Mr. BLUNT: I think I can safely say so.

The CHAIRMAN: Medical herbalists are generally what is known as unqualified men?

Mr. BLUNT: Unregistered men.

The CHAIRMAN: We have heard the word "unqualified" used.

Mr. BLUNT: Unregistered is a better word, your lordship.

The CHAIRMAN: But do you recover fees?

Mr. BLUNT: No, not fees for advice, but we recover for goods supplied.

Lord LUDLOW: Do you call yourselves physicians?

Mr. BLUNT: No.

Lord LUDLOW: Surgeons, then?

Mr. BLUNT: No.

Lord LUDLOW: Medical practitioners?

Mr. BLUNT: Yes. Medical practitioners with herbal remedies.

Lord LUDLOW: Could you come here and say, "I am a medical practitioner and therefore I protest against the Bill?"

Mr. BLUNT: No. I do not. Further, he could not claim, when pressed by members of the committee, that medical herbalists were qualified practitioners.

The committee finally decided that it would not hear Mr. Blunt as a witness on the details of the Bill.

Mr. VICTOR GOODMAN gave evidence in which he expressed views contrary to provisions of the Bill dealing with dental companies. He was of opinion that the Bill would be unjust to men who might have been removed from the Register on a mere question of etiquette. He contended that it was never intended that removal from the Register should altogether prevent a man from getting his living. He also stated that it was quite possible to supply teeth for a guinea a set.

Mr. L. CALLENDER, who stated that he belonged to the Amalgamated Association of Mechanical Dentists, also appeared as a witness. He had sold thousands of sets of teeth at a cheap rate and he maintained that the surgical and mechanical departments of dentistry were distinct. He never allowed his staff to interfere with people who required surgical aid. He maintained that the Bill would be unjust to the class which he represented.

The committee at this point adjourned until Monday, June 10th.

On Monday, June 10th, the Select Committee of the House of Lords resumed the hearing of witnesses on the Prohibition of Medical Practice by Companies Bill and the Dental Companies (Restrictions of Practice) Bill, Lord HYLTON again presiding.

Mr. G. S. BARNES, Controller of the Companies Department of the Board of Trade, was the first witness. He spoke at some length of the difficulties which the Board had experienced in dealing with the registration of dental companies in view of conflicting legal decisions and opinions. However, in 1905, they had asked the English, Irish, and Scottish law officers of the Crown to meet in consultation and frame an opinion to guide the Board. They met and gave their opinion in the following terms:—

"We recommend that if the title of the proposed company contains the word 'dentist' or any expression calculated to lead the public to suppose that the company is specially qualified for the purposes of dentistry, registration should be refused, even if one or more of the signatories to the memorandum of association are persons duly qualified to practise dentistry. When the title of the company is not misleading we think the registration should be granted, although the company is formed to carry on the business of a dentist. If the company, after being formed, advertises itself as dentists or dental surgeons the question whether any liability is thereby incurred must depend on the view ultimately taken on the construction of the Dentists Act. The possibility of such an abuse is in our opinion no reason for refusing the registration."

The CHAIRMAN: Would you suggest that the words "joint stock" should be struck out of the Dental Bill so as to throw the net as wide as possible?

Mr. BARNES: I think it would be well to spread the net as wide as possible.

Lord KNUTSFORD: If a company were formed abroad that would strike at it?

Mr. BARNES: Yes.

The CHAIRMAN: The scope of the Bill includes companies registered in "the British Islands." I think that these words were introduced to include the Channel Islands and the Isle of Man. Would the term "United Kingdom" include the Channel Islands?

Mr. BARNES: I do not think so.

The CHAIRMAN: Would the words "British Islands" include the Channel Islands?

Mr. BARNES: I think so.

The CHAIRMAN: Are the Channel Islands in the British Islands?

Mr. BARNES: They are a fief of the Dukedom of Normandy.

The CHAIRMAN: But is the law carried out as under the Duke of Normandy now?

Mr. BARNES: I think it is carried out under the old *coûtume de Normandie.* The witness admitted that it had been the custom of companies to register outside the United Kingdom to evade the Companies Acts.

Mr. JAMES V. ALBERT was also examined as a witness. He said that frequently patients had been improperly treated by so-called dental companies. He gave it as his opinion that the mechanical and surgical parts of the dental profession could not properly be treated as separate. He did not want to see company practice recognised in dentistry.

Mr. BOWEN (Bolton), who has been a teeth extractor for many years and the managing director of a company carrying on a teeth business, also gave evidence. He admitted that he was not a qualified dentist, but he had gained experience in extracting teeth under the supervision of his father who was a medical man. He objected to the Dental Bill which would interfere with his business. It would give a monopoly to less reputable practitioners—the men who got into the dental profession in 1878. Many of them had not the training which many unregistered men had.

The CHAIRMAN: Mr. Bowen, I do not think you will make much of a point by attacking the Dentists Act of 1878. We cannot hear evidence on that. You had better confine your observations against the Bill to the way in which it will affect the public.

Mr. BOWEN argued that some dental companies met a public want. The men who would benefit from the Bill would be the men who obtained their registration from the fact that they were in practice before 1878. They would bring things into a worse state than ever. Dentists who held an L.D.S. would not be allowed by the institutions from which they got their diploma to take service with companies. The only persons to accept these terms would be the registered men who came into the Register before 1878.

Mr. FITZROY, of the Privy Council, appeared to give evidence of its views on the Bills. It was, he said, only owing to recourse being had to the Companies Acts that any considerable practice by unqualified persons of dentistry had come to be possible. The Privy Council had always held that no individual could profess to practise dentistry unless he was properly qualified.

Lord KNUTSFORD: We have been told that there is a great difficulty in separating the mechanical side of dentistry from the surgical.

form the subject of the final report of the Commission, has been commenced.

American Tinned Meat.

Captain FABER asked the President of the Board of Trade whether he had any official information showing that a report had been published by the State Commissioner of Health at Albany to the effect that the reforms to be made in American tinned meat were still incomplete, and that the chemical analyses on 154 samples of canned meats showed the presence of boron preservative and other bad matter; and, if so, whether he would take steps to prevent these canned meats being landed in England.—Mr. BURNS (who replied) said: I have seen an account in a newspaper of the report referred to in the question. It does not appear to me that in the present state of the law I am empowered to take action of the kind suggested by the honourable Member; but as he is no doubt aware, I have before the House a Bill which would empower me to make regulations authorising measures to be taken for the prevention of danger to the public health arising from the importation of articles of food.

TUESDAY, JUNE 11TH.

Combating the Plague.

Dr. RUTHERFORD asked the Secretary of State for India whether he had yet received answers to his questions addressed to the Government of India relating to the numbers of medical men engaged in combating the plague.—Mr. MORLEY replied: I have not yet received the return. The figures may take some little time to collect.

Deaths from Plague.

Dr. RUTHERFORD asked the Secretary of State for India whether he would give the House the weekly returns of deaths from plague during May for each province in India.—Mr. MORLEY answered: The deaths returned for the weeks ending May 4th, 11th, and 18th respectively are for all India 77,772, 82,400, and 67,512. Later figures have not yet been received. I shall be very willing to communicate the provincial returns for those weeks to the honourable Member or to place them in the library.

The Administration of the Vaccination Act.

Sir WILLIAM COLLINS asked the President of the Local Government Board whether he was aware that, by general orders of Oct. 31st, 1874, the Local Government Board prescribed it as the duty of the guardians of the poor to give directions to their vaccination officers to take proceedings in cases in which the proceedings of the Vaccination Act of 1867 had not been complied with, and that in July, 1875, the Local Government Board obtained a mandamus to compel the guardians of the Keighley union to give directions to their vaccination officer; and that in consequence of their default the guardians of that union suffered imprisonment; whether, seeing that Lord Herschell's Commission on Vaccination reported in 1896 that it was the duty of the guardians to put the law in regard to vaccination in operation, he would say whether the powers and duties of guardians in regard to such prosecutions under Sections 29 and 31 of the Act of 1867 had since been altered by statute; and, if not, whether the powers of the guardians in directing their officers in instituting proceedings under the Vaccination Acts were the same now as they were held to be in 1875 and in 1896.—Mr. BURNS sent a written reply in the following terms: I am aware of the facts referred to in the question. Some limitations were placed by Sections 2, 3, and 4 of the Vaccination Act, 1898, on the cases in which prosecutions could be instituted under Sections 29 and 31 of the Vaccination Act, 1867, but, subject to this, there has been no statutory provision since 1896 which would affect the powers and duties of guardians in regard to prosecutions under those sections. Since that date, however, the courts of law have decided that it is the duty of the vaccination officer to institute these prosecutions without any directions from the guardians. When in 1898 the Order of 1874 mentioned by my honourable friend was rescinded, the provision which it contained as to directions by the guardians in cases of this kind was not inserted in the Order which took its place. That Order provided, however, that the guardians should from time to time ascertain whether the vaccination officer was performing the duties imposed on him by the Vaccination Acts of enforcing the provisions of those Acts and the duties imposed on him by the Order, and should require the due performance by him of such duties.

WEDNESDAY, JUNE 12TH.

Women Sanitary Inspectors.

Mr. COOPER asked the President of the Local Government Board, whether he could state how many women had passed during the last ten years the examination required to qualify for a sanitary inspector; and how many sanitary authorities had appointed a female sanitary inspector on their staff.—Mr. BURNS replied (by written answer): It is only in London that a sanitary inspector is required by law to be the holder of a certificate granted by a body approved by the Local Government Board to the effect that he has by examination shown himself competent for such office. I understand that the number of women who have passed the qualifying examination during the ten years ended 31st December last is about 216, and that the number of metropolitan borough councils who have appointed one or more female sanitary inspectors is 22.

MEDICAL AND DENTAL COMPANIES: EVIDENCE BEFORE A SELECT COMMITTEE.

A Select Committee of the House of Lords, presided over by Lord HYLTON, heard further evidence on June 6th in connexion with the Prohibition of Medical Practice by Companies Bill and Dental Companies (Restriction of Practice) Bill.

Mr. R. W. TURNER, counsel to the British Dental Association, was the first witness. He stated that he had been about 15 years counsel to this association and had also on behalf of the British Medical Association and Medical Defence Union had to consider proposals for the amendments of the Medical and Dentists Acts. His experience of these Acts was that very considerable ingenuity was shown in evading them. The views of the British Dental Association were, of course, that company practice in dentistry should be absolutely prohibited. The public suffered from company practice as well as the dental profession. Enormous fees were sometimes charged by these companies—twice or three times as much as a first-class dentist would charge. However, he had considered the Dental Bill with a view to finding out whether, and how, it could be evaded. He would, in the first place, suggest that companies, if allowed to practise at all, should only practise by means of registered dentists, and, further, that no new companies should be allowed to be formed for the practice of dentistry. He submitted a number of specific amendments with a view to strengthening the Bill. He pointed out that the word "company," as used in the Bill, would not prevent a foreign company, or one registered in the Channel Islands, or the colonies, from carrying on by means of agencies the business of dentistry and thereby successfully evading the proposed Bill. These difficulties would be got over by defining a company under the Bill as "any association, whether incorporated or unincorporated, within or without the United Kingdom." He would extend the liability to answer for a contravention of the law to all persons who were engaged at the place where the contravention occurred in the practice of dentistry on behalf of a company. Mr. Turner further pointed out that the penal clause of the Dentists Act had received a more limited interpretation in Scotland than in England or Ireland. In Scotland it was not an offence for an unregistered man to use the description dental surgery. In England and Ireland this was an offence. In other words, the Scotch courts had decided that the words "style, title, or description" were limited to words of personal description and not to words descriptive of premises or practice. The effect of this decision was to afford an easy means of evading the Act in Scotland. This was shown by the fact that in the return of companies practising dentistry made in 1904 there were 70 in England and Wales and 22 in Ireland and only three in Scotland. In order to deal with this anomaly he would submit that a subsection should be introduced into the Bill to provide that the words "title addition or description" where used in the Dentists Act, 1878, should include "any words or letters implying that the practice of dentistry is being carried on." He further pointed out that there were omissions from the Bill in the attempt to penalise the company *quâ* company. The first point had reference to the serving of the summons. Under the Summary Jurisdiction Acts a summons must be served by post at the registered office of the company. There was no machinery whereby this could be effected if the registered office were in Ireland and the offence were committed at a branch office in England and *vice versâ*. There was a machinery as between England and Scotland but it was complicated. He therefore suggested that the summons could legally be served at any office or place of business of the company within the jurisdiction of the court in which the proceeding was brought. There was a further difficulty with regard to the recovery of penalty and costs. In the case of an individual imprisonment followed in default of distress. This was impossible in the case of a company and there was no process whereby a company *quâ* company could be forced to pay if there was not sufficient distress. Goods and materials could all be covered (1) by a debenture; (2) by a hiring agreement; (3) by a bill of sale; and (4) by being the property of the practitioner or some other person. He would therefore suggest that to make the Act effective the following provision should be inserted: "The court shall, when a registered company is fined, direct that the fine and costs shall be paid by the company by a date not later than one month from the date of conviction and if the fine and costs are not paid by that date the court shall forthwith send a certificate of such conviction to the Registrar of Joint Stock Companies where the company is registered and the Registrar shall forthwith strike such company off the Register." Mr. Turner further thought that it would be desirable to add a clause that a person should not be entitled to recover for any work done or materials provided unless he was registered under the Dentists Act. He did not know whether it would be possible to make a provision whereby any person on the relation of the law officers of the Crown could take proceedings by way of injunction or interdict against a company carrying on business in contravention of the Act. A company was so elusive that he believed some such clause as this would do more than anything else to prevent an evasion of the Act. If it were inserted the need for invoking the penal clauses would be diminished and foreign companies could be got at effectively in this country, so far as their agencies were concerned. The difficulties that he had referred to with regard to the recovering of fines also applied to recovering damages and costs for malpraxis. The unfortunate patient would probably get nothing. He knew of such cases within his own experience. The practitioner vanished and he could not be brought before the General Medical Council. The security that the patient got by having the individual responsibility of the practitioner was lost when the company appeared on the scene. And when an action for damages lay it was discovered that the company, being a corporation, had neither cash nor conscience.

Lord LUDLOW: Assuming that this Bill passes into law, qualified dentists can form a company. Do you see any objection to that?

Mr. TURNER: I do see objections to it. Take a company formed of seven qualified men. There is nothing in the Bill which would cause them to do anything else than to employ some registered practitioner and get him to carry on a practice on their behalf. You at once have this registered man employed. What is the object? Gain. You at once lose the relation of practitioner to patient. He at once says: "I must make money for my employers." Assuming that he is guilty of malpractices the company gets rid of him. He goes elsewhere and another man is put in his place. The company continues. A judgment is got against the company. These registered people perhaps have given some outside person a debenture over the company's assets. Then nothing can be got. In the case of an individual professional man a personal relationship exists. Any other arrangement would lead to avoiding the liability.

Dr. G. A. HERON, chairman of council of the London and Counties Medical Protection Society, was the next witness. He stated, in answer to the CHAIRMAN, that the Prohibition of Medical Practice by Companies Bill had been considered by the committee of his society. They would prefer to have the Bill passed rather than not to have it. However, they hoped that before it became an Act it might be made much more far-reaching than it was at present. For instance, they should like to see a Bill of this kind hitting at unqualified men in whatever way they might practise and in such a way as to bring them within the grasp of the law.

The CHAIRMAN: I think, Dr. Heron, it would not be within the terms of our reference to go into subjects altogether outside the scope of the Bill. What we must ask you to do is to confine yourself to the subject-matter of the Bill and the views of your society on it. Of course, you are thoroughly acquainted with the objects of the Bill as

National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury.—Senior and Junior House Physicians. Salary £50 per annum, with board and residence in each case.

New Hospital for Women, Euston road, N.W.—House Surgeons (females). Also Clinical Assistant.

Newcastle-upon-Tyne, City and County of.—Assistant Medical Officer of Health and Resident Medical Officer of the City Hospital for Infectious Diseases, unmarried. Salary £300 per annum, with board, lodging, &c.

Newcastle-on-Tyne Dispensary.—Visiting Medical Assistant. Salary £160.

Newport and Monmouthshire Hospital.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and laundry.

Norfolk and Norwich Hospital.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

Oldham Workhouse.—Resident Medical Officer, unmarried. Salary £150 per annum, with residence, coal, gas, rations, washing, and attendance.

Oxford, University of.—Professorship of Pathology. Income of £700 per annum from the University Chest.

Rotherham Hospital and Dispensary.—Senior House Surgeon. Salary £110 per annum, with rooms, commons, and washing.

Royal Free Hospital, Gray's Inn road, W.C.—Junior Obstetric Assistant for six months, with board, lodging, and laundry. Also Clinical Assistants (all females). Also Assistant to the Clinical Pathologist (female). Salary £50 per annum.

Royal Waterloo Hospital for Children and Women, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and lodging.

Sanitary Inspectors' Examination Board.—Examiner.

Seamen's Hospital Society, Greenwich.—Assistant Ophthalmic Surgeon to the "Dreadnought" Hospital.

Sheffield Fever Hospitals.—Junior Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

Sheffield, University of.—Demonstrator in Physiology. Salary £150 per annum.

Taunton, Taunton and Somerset Hospital.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

University of London (University College).—Assistant in the Anatomical Department and Curator of the Anatomical Museum.

Wallasey Dispensary and Victoria Central Hospital.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board and service.

West Bromwich District Hospital.—Senior House Surgeon, unmarried. Salary £110 per annum, with, board residence, and laundry. Also Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and laundry.

West London Hospital, Hammersmith road, W.—Officer in Charge of X Ray Department.

Western General Dispensary, Marylebone-road, N.W.—Senior House Surgeon. Salary at rate of £100 per annum, with board, residence, and washing.

Worcester General Infirmary.—House Physician. Salary £50 per annum, with board, residence, and washing.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Louth, in the county of Lincoln, at Lochwinnock, in the county of Renfrew; and at Whitby, in the county of Yorks.

Births, Marriages, and Deaths.

MARRIAGES.

Arnison—Trustram.—On the 8th June, at St. Paul's Church, Avenue road, N.W., by the Rev. H. Bury, William Drewett Arnison, M.D. the eldest son of the late George Arnison of Allendale, Northumberland, to Christine Mary, youngest daughter of the late William Prince Trustram and Mrs. Trustram, of Lauderdale Mansions, Maida Vale.

Braddon—Josling.—On June 6th, at Holy Trinity Church, Upper Tooting, William Vaudrey Braddon, M.B.Cantab., to Beatrice, second daughter of the late George Frederick Josling, Great Thurlow Hall, Suffolk, and Mrs. Josling, of Kinnoull, Tooting Common, S.W.

Cole—White.—On the 11th June, at the Church of the Annunciation, Bryanston-street, W., by the Rev. Prebendary C. M. Harvey, Vicar of Hillingdon, assisted by the Rev. Canon E. B. Ottley, Vicar of the parish, Robert Henry Cole, M.D., of 25, Upper Berkeley street, Portman-square, to Mabel Effie, widow of Arthur Thomas White, M.R.C.S., of the Egyptian Public Health Service.

Sanders—Brandon.—On June 12th, at St. Stephen's Church, Ealing, by the Rev. Eyton-Jones, Edward Arthur Sanders, of Northampton, younger son of Lieutenant Colonel E. Sanders, to Ruby Ethel Ruth, fourth daughter of the late Henry Brandon of Queensland, and Mrs. Brandon, of 4, Kent Gardens, Ealing.

DEATH.

Gill.—On June 11th, at Pembury-road, Clapton, Samuel Lawrence Gill, M.R.C.S., L.R.C.P., within seven days of his 84th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THE CHEMICALISED ROAD."

With reference to our annotation under the above heading in The Lancet of May 25th, p. 1443, the managing director of the Akonia Syndicate, Limited, of 120-122, Birkbeck Bank Chambers, High Holborn, London, W.C., states that their "dust layer" known as akonia, the application of which is based upon its hygroscopic properties, has been used in some hundreds of towns in England and Wales since 1903, and up to the present "not a single complaint has been received of any unpleasant results either to tyres or clothes." It is stated that the preparation is odourless, and that if by chance it was spread on clothing a simple application of clean water would remove all effects. The preparation being clean compares favourably with tar and mixtures of oil and is said to have the advantage over tar and oil mixtures that it does not encourage side slip. Reports are quoted in which very favourable opinions are given as to the effectual way in which akonia suppresses dust. The point which we raised was whether it would not be found that chemical salts in the long run would lead to the formation of irregularities in the surfaces of roads or prove destructive to tyres, metal work, boots, or the hoofs of horses and cattle. Common salt, it is true, is a neutral substance, but everybody is familiar with its corrosive action on metal fittings, leather, and so forth. Calcium chloride, even when neutral, acts in a similar way owing to the dissociation of its "ions" calcium and chlorine when dissolved in water.

THE MEDICAL PROVISION ON SMALL LINERS.

To the Editors of The Lancet.

Sirs,—When a medical man advises a patient to take a sea voyage he does not always pay sufficient attention, I think, as to the quality of medical provision on the particular vessel selected. This may be of grave importance to the traveller; I have seen instances of this on the many voyages it has been my lot to take as an ordinary passenger. Ship surgeons vary very considerably even on British liners, though, speaking generally, those on the big British lines are superior to those on the continental. The worst of all are the men on the Japanese passenger steamers. According to my experience, any voyager to the East likely at all on the journey to need medical assistance cannot do better than patronise the P. & O. boats. The surgeries on these liners are admirably fitted up, the supply of drugs adequate, and the surgeons as good, if not better, than any to be found on the sea. On some foreign boats, where things are run on the cheap and the passage money low, the so-called "qualified" surgeon and the medicines at his disposal are alike very poor. Invalids are running a grave risk who submit to be at the mercy of an incompetent man when far away at sea and with no other help at hand.

I am, Sirs, yours faithfully,
Nanning Fu, China, May 1st, 1907. H. Lechmere Clift.

AN ILLUSTRATION OF HOW CONSUMPTION IS SPREAD.

At Poplar recently Mr. Wynne Baxter held an inquest upon the body of a labourer who was proved by medical evidence to have died from consumption. It was also proved that the wife of the deceased had died only two months earlier from the same disease and that upon her also an inquest was held. The medical witness pointed out to the jury that the husband had probably been infected by his wife, but it is to the fact of an inquest having been held in both cases that the attention of the public should also be drawn. The inquests must have been rendered necessary owing to neither the husband nor the wife having sought medical aid, and their not having done so even when dying illustrates the difficulties which beset those who would diminish the spread of the disease which proved fatal to them.

THE ANTIVIVISECTIONIST AT LARGE.

In the latter part of the month of April a meeting was held at Malvern with a view to form a Malvern branch of the National Antivivisection Society. The chairman was Mr. H. A. Acworth. The lecturer was Mr. Sommerville Wood, the official lecturer of the society, and among the audience was Viscount Harberton. Mr. Sommerville Wood mentioned that Mr. O. C. Duncan, the Worcestershire county analyst, held a licence for vivisection, that the licensed place was Shuttlefast farm, Malvern, and that 21 experiments had been conducted by him under one licence and six under the other. Viscount Harberton then wrote to the Malvern Advertiser saying that he considered that Mr. Duncan had "taken out a licence to do what he regards to be justifiable but which we, on the other hand, regard as wicked and cruel." The chairman of the Worcestershire county council, Mr. Willis Bund, then wrote to the Malvern papers pointing out that it was quite true that Mr. Duncan did hold a vivisection licence, but that the only experiments at Shuttlefast farm were placing live fish in the different effluents from the sewage farm to see how and to what degree they were affected by it. Lord Harberton therefore wrote to the Malvern Advertiser to say that as regards what was done at Shuttlefast farm Mr. Duncan could not be considered a vivisector.

Mr. FitzRoy: I agree it is impossible to make the distinction and therefore the practice of unqualified persons should be eliminated.

Lord Knutsford: You would also agree that the great majority of companies do not take the care to differentiate between the surgical and the mechanical work?

Mr. FitzRoy: I should say so. The lack of skill disqualifies the subordinate from observing any instructions he has not to undertake the surgical work.

Lord Knutsford: The Privy Council, I understand, approves of these Bills as they stand. Would it prefer stronger measures?

Mr. FitzRoy: I think the Privy Council on the whole approves of them as they stand. I think it would be difficult to refuse the right to practise dentistry through properly qualified men to properly constituted companies.

Mr. F. W. **Bradley**, of F. W. Bradley, Limited, which carries on artificial teeth work in East Anglia, was then examined. He said that when he was studying pharmacy he also studied dentistry. In consequence of his business having grown to a great extent he registered it under the Joint Stock Companies Acts. He had employed assistants, some registered and others unregistered.

The **Chairman**: You hold that the company F. W. Bradley, Limited, is a source of benefit to the public?

Mr. Bradley: I have a great deal of evidence to prove that it has been of benefit in East Anglia. He went on to say that it met a demand. It used the words "artificial teeth manufacturers" as a description. The Dental Bill before the committee would if it became law prevent it from practising dentistry. That would be absolute ruin to him.

The **Chairman**: In the interest of the public, which we must consider more than anything else in this legislation, you think your company has been of benefit by the lower charges it makes?

Mr. Bradley: I think so undoubtedly.

The **Chairman**: Now supposing the Bill becomes law, would there be great difficulty in getting qualified assistants? Is there a greater difficulty in getting qualified assistants than getting unqualified?

Mr. Bradley: There is a great difficulty in getting registered men. The young men have the L D.S. and they prefer to work on their own account. He had himself found a great difficulty in getting qualified men. Hence he employed unregistered men. Such registered men as were available were often incompetent.

Lord Knutsford: You will admit that there are a great many bogus companies doing a great deal of mischief?

Mr. Bradley: Yes, my lord.

Lord Knutsford: That is the case we have to meet. Now, do you think there are some working companies which can prove that they are doing a *bonâ-fide* business? If we exempt them your difficulty would be met?

Mr. Bradley: Yes, that would meet my views and the views of those who are carrying on *bonâ-fide* businesses.

Lord Knutsford: So far as we have seen some companies have been able to act for the benefit of the public. If they can prove that they should be exempted from the Bill. Now is that your view?

Mr. Bradley: Yes, my lord.

Mr. **Doweswell**, representing the Macdonald Manufacturing Company, also gave his views on the Dental Bill. The registered offices of his company had always been in London. They did not offer medical advice.

The **Chairman**: Do you practise dentistry?

Mr. Doweswell: Only that part of it which is incidental to the adaptation of artificial teeth.

The **Chairman**: I should have thought that the adaptation of artificial teeth was incidental to dentistry. You have put it foremost.

Mr. Doweswell: Yes, my lord.

The **Chairman**: There has been something said about qualified assistants. What are your experiences?

Mr. Doweswell: There has been great difficulty in getting qualified assistants. We can only get the men registered in 1878. The conditions under which the licentiates in dental surgery obtain their qualifications prohibit them from accepting service with an advertising company.

The **Chairman** put it to the witness that companies put on the prices to earn dividends.

Mr. Doweswell: It would be equally fair to say that the private practitioner puts it on to get the largest income he can. In precisely the same way we are entitled to as large a dividend as we legitimately can earn. He contended that the companies met a want. Supposing the Dental Bill passed into law, he suggested that a clause should be inserted to the effect that the General Medical Council should not prohibit fully qualified men from taking service with companies which advertised.

Mr. J. H. **Roberts**, solicitor to the Incorporated Society of Extractors and Adapters of Teeth, also appeared as a witness. He submitted that the registered practitioners were not sufficient for the needs of the country and that the members of his society filled the deficiency in a manner satisfactory to the public.

The committee then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

Braund, James Montague, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Stratton (Cornwall) Rural District Council.

Calthrop, Lionel C. E., M.B. Durh., M.R.C.S., L.R.C.P., has been appointed Medical Superintendent of Woodhall Spa, Lincolnshire.

Crisp, James Ellis, M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Lacock District by the Chippenham Board of Guardians.

Dawson, George W., F.R.C.S. Irel., D.P.H., has been appointed Surgeon to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

Fairclough, W. A., M.B., Ch.B. N.Z., has been appointed House Surgeon at the Royal Westminster Ophthalmic Hospital.

Field, F. E., M.B., Ch.B. Edin., has been appointed Clinical Assistant at St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

Hare, T. G., M.D Freib., has been appointed Pathologist and Bacteriologist to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

Hollick, Bernard Septimus, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Sturminster (Dorset) *Rural District Council.*

Kelynack, T. N., M.D. Vict., M.R.C.P. Lond., has been appointed Honorary Physician and Medical Adviser to the Children's Home and Orphanage (London and nine country branches).

Richardson, M J, M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Wolston District of the county of Warwick.

Smith, W. Alexander, M.B., Ch.B. Aberd., has been appointed Assistant House Surgeon at the North Riding Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birmingham City Asylum.—*Resident Clinical Assistant (female).* Salary £50 per annum, with apartments, board, and washing.

Birmingham General Hospital.—Three Receiving-rooms Officers. Salary £150 per annum.

Bolton Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

Bradford Poor-law Hospital and Workhouse.—Resident Assistant Medical Officer, unmarried. Salary £100, with rations, apartments, and washing.

Bradford Royal Infirmary.—Resident Surgical Officer. Salary £150 per annum.

Bristol General Hospital.—Physician. Also Assistant Physician.

Canterbury City Asylum.—Assistant Medical Officer. Salary £140 per annum, with apartments and laundry.

Coventry and Warwickshire Hospital.—Junior House Surgeon. Salary £60 per annum, with rooms, board, washing, and attendance.

Dr. Barnardo's Homes.—House Surgeon and Resident Medical Officer at Her Majesty's Hospital for Children, Stepney Causeway, E. Salary £60, with board, lodging, and washing.

Dumfries and Galloway Royal Infirmary.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Assistant Surgeon. Also House Physician for six months. Salary £25, with board, residence, laundry, &c.

Egypt.—Sub-Inspector of Ophthalmic Hospitals, unmarried. Salary £500 a year.

Evelina Hospital for Sick Children, Southwark, S.E.—Clinical Assistants.

General Post Office, Medical Department (Male Staff).—Assistant to the Medical Officers at Headquarters. Salary £200 a year, rising to £300.

Gloucester, General Infirmary and Gloucestershire Eye Institution.—Senior House Surgeon. *Salary £100 per annum*, with board, residence, and washing.

Grimsby and District Hospital.—Resident House Surgeon. Salary £100 per annum, with board, lodging, and washing.

Guildford, Royal Surrey County Hospital.—House Surgeon. Salary £100, with board, residence, and laundry.

Guy's Hospital.—Gordon Lecturer on *Pathology.* Salary £500 per annum.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

Hull, Royal Infirmary.—Casualty House Surgeon. Salary £50, with board and lodging.

Indian Medical Service.—An Examination for not less than 11 Commissions.

Ingham Infirmary and South Shields and Westoe Dispensary.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

Leicestershire and Rutland Asylum, Leicester.—Senior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, apartments, and washing.

Lincoln County Hospital.—Junior House Surgeon, unmarried, for six months Salary £25, with board, residence, *and washing.*

Liverpool Eye and Ear Infirmary.—House Surgeon. Salary £80 per annum, with board and lodging.

London County Asylum, Horton, Epsom.—*Fifth Assistant Medical* Officer. Salary £150 a year, with board, apartments, and washing.

London School of Tropical Medicine.—Entomologist.

Loughborough and District General Hospital and *Dispensary.*—Resident House Surgeon. *Salary £100* a year, *with rooms*, attendance, board, and washing.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £60 per annum, with board and residence.

Maidstone, West Kent General Hospital.—Assistant House Surgeon, unmarried. Salary £50, with board and lodging.

Miller Hospital and Royal Kent Dispensary, *Greenwich road*, S.E.—*Honorary* District Medical Officers.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson). 4.30 P.M.: Special Demonstration of X Ray Cases (Mr. Pirie).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Howlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. 2.15 P.M.: Special Lecture:—Dr. Howlett: Diagnosis of the Nature of Pathological Exudates.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Mr. C. Nourse: Larynx.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Tooth: Multiple Neuritis.

WEDNESDAY (19th).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

THURSDAY (20th).—Royal College of Physicians of London (Pall Mall East).—5 P.M.: Croonian Lecture:—Dr. W. J. R. Simpson: Plague.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel). 4.30 P.M.: Special Demonstration of Cases of Children's Disease (Dr. T. R. Whipham).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 4.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. *Davidson: Radiography.* Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 3.15 P.M.: Special Lecture:—Sir William Bennett.

Charing Cross Hospital.—4 P.M.: Mr. Waterhouse: Demonstration (Surgical). (Post-Graduate Course.)

Hospital for Sick Children (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Mr. Kellock: Affections at and about the Umbilicus.

Royal Institute of Public Health (37, Russell-square, W.C.).—5 P.M.: Special Lecture:—Dr. L. W. Sambon: The Development of Africa: A Problem of Comparative Pathology.

FRIDAY (21st).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. Abraham: Cases of Skin Disease.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M.: Mr. C. A. Parker: Clinique. (Throat.)

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. A. Turner: Paralysis Agitans.

Central London Throat and Ear Hospital (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Mr. C. Nourse: Larynx.

SATURDAY (22nd).—Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations.

London School of Clinical Medicine (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

EDITORIAL NOTICES.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, June 13th, 1907.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain-fall	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp.	Wet Bulb	Dry Bulb	Remarks.
June 7	29·87	W.	0·07	114	68	49	52	56	Cloudy
" 8	29·93	S.W.	0·01	116	67	55	55	59	Cloudy
" 9	29·85	S.	...	119	76	58	60	65	Fine
" 10	29·75	S.W.	0·04	124	69	56	58	62	Cloudy
" 11	29·91	S.W.	...	124	67	54	55	61	Cloudy
" 12	29·67	S.W.	0·06	124	66	56	54	60	Cloudy
" 13	29·82	W.	0·02	122	66	55	54	57	Cloudy

During the week marked copies of the following newspapers have been received:—*Ardrossan and Salcoats Herald, Glasgow Weekly Herald, Wellingborough News, Oxford Gazette, Leamington Spa Courier, Midland Evening News, Norwich Press, Weekly Times and Echo, Daily Express, Morning Advertiser, Broad Arrow, Pall Mall Gazette, Ormskirk Advertiser, Hackney Mercury, Plymouth Morning News, Kensington News, Chiswick Times, Essex Times, Hertfordshire Standard, Essex Newsman, Gresham Standard, Oxford Chronicle, &c.*

It appears, however, that Mr. Duncan held a vivisection certificate for some premises at Worcester and under this certificate certain inoculation experiments had been made as regards a suspected case of anthrax in cattle, a suspected case of anthrax in man, and a suspected case of tuberculosis in man. These experiments were all negative, with the exception of the case of suspected anthrax in man, which gave a positive result, and the patient was promptly treated for anthrax, his life being presumably saved thereby. These experiments seem to have filled Viscount Harberton with horror. He now considers that Mr. Duncan is a vivisectionist, and more than that, he considers that Mr. Willis Bund is one also. The class of mind which can take exception to experiments of this kind is extraordinary.

A MEDICAL SCHOOLMASTER.

To the Editors of The Lancet.

Sirs,—I should be glad if you would kindly advise me through your columns with regard to the following case. I have taken down my plate and have advertised in a London paper that I am prepared to take private pupils, giving the nature of my art degree at Cambridge. In support of my competency to look after the physical health of the boys I have said that I am a fully qualified medical man and have mentioned my degrees. Is there anything unprofessional in this or anything that the Medical Council would object to?

I inclose my card and thank you in anticipation.

I am, Sirs, yours faithfully,

June 10th, 1907. M.B.

*** We see nothing unprofessional whatever in our correspondent's action, while there is much to be said in favour of the medical schoolmaster.—Ed. L.

THE BARKER VIBRATOR.

In The Lancet of Sept. 23rd, 1905, we described the Barker vibrator and gave it as our opinion that it was a good and carefully constructed instrument for producing rapid vibration of the tissues. The instrument which we then described was driven by a small motor fixed upon a pedestal. Mr. J. Barker has now brought out his vibrator in a portable form—i.e., the motor together with the applicator weigh about four pounds and so can be easily carried by the medical man to the patient's house. The current is taken from the ordinary mains and the motor can be supplied for either alternating or continuous current. The motor is wound to take a current of 110 volts pressure, and if the current in use is delivered at a higher pressure a lamp resistance is supplied. There is only one disadvantage which the portable motor presents as against the fixed motor, and that is that as it is moved about it is sometimes noisy. But this is a very small disadvantage. The price of the new style of vibrator is £5 5s. and for therapeutical effects it is practically as good as the old style. As we said in our previous report, the vibrator does not appear to be exploited as a cure for every disease, nor are members of the public invited to apply it themselves.

AN IMPROVED COPPER SOLUTION FOR THE ESTIMATION OF SUGAR.

So many modifications of the original method suggested by Fehling for the estimation of sugar have been proposed from time to time that it may seem superfluous to mention another. Still, as we have found that the results were decidedly good and the change from a blue to a colourless solution sharp we may briefly describe a method recently introduced to our notice by Mr. W. Brumwell of 71, Gamage-buildings, Holborn, London, E.C. In this method the use of potassium or sodium tartrate is done away with altogether, ammonia being depended upon for dissolving the suboxide of copper reduced by the grape sugar. The special point about the method, however, is that the double salt of sulphate of ammonia and copper is employed instead of the ordinary sulphate. The reagent is prepared, therefore, with ammonium sulphate, copper sulphate, potassium hydrate, ammonium hydrate, glycerine, and a sufficiency of water so that one cubic centimetre of the reagent is the equivalent of 0·00526 gramme of glucose. The double salt of copper and ammonia may be prepared by adding ammonium hydrate to a solution of copper sulphate until the hydrate precipitated dissolves to a deep blue solution. Alcohol is then added which results in the separation of the double salt of ammonia and copper. The crystals must be used at once as they give off ammonia and basic sulphates form. The solution supplied to us is most convenient to work with and gives accurate results. The change from a blue to a colourless solution is very sharp and can be very readily observed. The results are fairly accurate even when testing a urine containing a small percentage of sugar by adding it to a drachm of the copper reagent drop by drop.

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Shoreditch.—The questions are asked in too general terms to make it possible to answer them. If by "private hospital" an institution is meant, before we can give an answer we should require to know the *conditions* under which the private hospital is founded and the regulations governing it. We should also have to see specimens of the "notices" in question.

Pallas.—We know nothing of the quack preparation in question. We do not give advice as to the prevention of child-bearing.

Communications not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (18th).—Medico-Legal Society (22, Albemarle-street, W.).—8.30 P.M.: Exhibition of Medico-Legal Specimens. Discussion on Opinion and Fact in Medical Matters (introduced by Dr. C. H. Wise).

WEDNESDAY (19th).—Royal Meteorological Society (70, Victoria-street, Westminster, S.W.).—4.30 P.M.: Exhibition of "Step" Anemometer by Mr. W. Child. Papers:—Mr. F. C. Bayard: Weather and Crops, 1891–1906.—Mr. C. P. Hooker: The Relation of the Rainfall to the Depth of Water in a Well at Cirencester, 1903–1906.

Royal Microscopical Society (20, Hanover-square, W.).—8 P.M.: Paper:—Mr. E. M. Nelson: Eye-pieces for the Microscope. Lecture:—Mr. F. Enock: The Life-history of the Tiger Beetle (Cicindela campestris) (illustrated by lantern slides).

Royal Medical and Chirurgical Society (20, Hanover-square, W.).—5.30 P.M.: Mr. D'Arcy Power: Dr. Walter Bayley and his Works, 1529–92. (There will also be a number of exhibits of medical and antiquarian interest.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (17th).—Post-Graduate College (West London Hospital, Hammersmith road, W.).—12 noon: Pathological Demonstration:—Dr. Low. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Mr. Armour.

North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

London School of Clinical Medicine (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 4 P.M.: Special Lecture:—Dr. StClair Thomson: Paralysis of the Vocal Cords.

TUESDAY (18th).—Royal College of Physicians of London (Pall Mall East).—5 P.M.: Croonian Lecture:—Dr. W. J. R. Simpson: Plague.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin.

A Clinical Lecture

ON

THE NATURE AND TREATMENT OF PILES.

Delivered at University College Hospital
on Feb. 27th, 1907,

By ARTHUR E. J. BARKER, F.R.C.S. Eng.,
PROFESSOR OF SURGERY AT UNIVERSITY COLLEGE HOSPITAL SCHOOL AND SURGEON TO THE HOSPITAL.

GENTLEMEN,—A number of cases of piles having recently been under my care in the wards and outside the hospital has suggested that the subject of the nature and treatment of hæmorrhoids would be a suitable one for a practical clinical lecture while the cases you have seen are fresh in your memories.

But first, what is a pile? This question is not a difficult one to answer. A pile is primarily a dilated or varicose condition of one or more of the plexus of veins lying under the mucous membrane of the last inch or so of the lower bowel. Probably there is a congenital weakness of the muscular coat of these veins in most cases, just as we find the same thing in the case of the veins of the leg. If we inquire of patients suffering from hæmorrhoids we constantly hear that their parents were similarly afflicted or other members of the same family and a considerable number of them have developed the trouble early in life. But this is not all. There are other factors in the production of piles. These divide themselves into two groups: first, any cause of obstruction to the return of blood through the inferior hæmorrhoidal plexus; and, secondly, any cause of local irritation. In the first group come a sluggish liver with engorgement of all the veins of the portal system, heart disease, pregnancy, and ovarian cysts and other pelvic tumours, and, most common of all, a loaded bowel in chronic constipation, and prolonged standing or sitting. In the second come every kind of septic irritation, the commonest being want of cleanliness after defæcation; then local mechanical irritation, such as chafing, bumping on rough roads, sitting on damp seats, &c.

It is easy to understand how the factors in the first group act upon veins congenitally weaker walled than usual. They become simply more and more distended as their weak walls yield to the strain from above. But at first sight it is not quite so easy to explain how local irritation plays a part in their production. And yet a little thought makes the matter plain. Local irritation prolonged for any time leads to hyperæmia and in the end to inflammation of a chronic type, with gradual loss of tone in the walls of the vessels in the inflamed area and their gradual dilatation by the stress from within. This inflammation has also other effects. It may lead to clotting in the veins, with or without suppuration, and it may cause chronic thickening in the tissues around which may become permanent. Piles formed in any of these ways, alone or combined, only exist in the lowest part of the rectum in or about the anus—the "pile-bearing area" of Whitehead. They may come to lie quite internal to the anal sphincter or external to it, or sometimes one, sometimes the other, when they are called intermediate. They may be spongy owing to great vascularity, or hard from periphlebitis, or clotted and inflamed from a more acute inflammation.

As a rule most patients who consult us for piles have been suffering from them for a long time. A variety of causes have been at work but most usually perhaps want of cleanliness and lack of attention to the emptying of the bowels. But as a rule they only come to us surgeons at a time when they think that nothing but an operation will relieve them. And this brings us to the question of treatment.

Now the first point I want you to understand is this, that many cases of piles even when very large do not require operation for their cure. Of course, some are beyond the reach of any other treatment short of operation. Again, you will do well to remember that many cases of very large piles which will ultimately require operation are not when you first see them in a safe state for operative treatment. By this is meant that in many cases as they come to you there is much septic irritation about the anus and rectum from want of cleanliness. On the one hand, this is keeping up congestion and dilatation of the veins, and on the other any operation undertaken at this time would be attended with risk from dislodgement of clots and further would not be followed by that union without suppuration which is necessary if contraction of the anus is to be avoided. These points cannot be insisted on too much or too frequently.

The first thing, then, in any case of piles is to see that they are relieved from any source of engorgement from within by gentle laxatives and bodily exercise and that the local condition be patiently treated on antiseptic principles. The piles and surrounding parts should be washed over three times daily, while the patient brings them into prominence by straining. The first washing should be done with soap and water and it may be said of this that if it were employed night and morning by those who suffer from pruritus and a slight tendency to hæmorrhoids there would be far fewer cases which needed operation. Not only is this treatment preventive of piles but when they are undoubtedly present they will become much smaller and even disappear when it is carried out patiently and regularly. But when piles are present in abundance and covered by irritating mucous discharge as a rule antiseptics are used with advantage if not too powerful. Perhaps the best of all is bichloride of mercury, 1 part in 1000; at least, I have found it so. After the first washing of the piles with soap and water they are gently bathed with this lotion by means of a piece of gauze, old linen, or wool steeped in lotion. If possible they should then be reduced within the anus but without force, and the patient should where convenient lie down for a little time afterwards. This should be done in the morning after the bowels have been relieved and at night before going to bed. It is surprising what improvement will take place even in very bad cases under this treatment. Over and over again I have seen large crops of piles disappear completely and patients who were miserable before and who had made up their minds to operation have been able to postpone the latter indefinitely. But even suppose that hæmorrhoids are not quite cured in this way the improvement in their condition under this treatment is usually so great that when an operation comes to be done the prospects of its success are much improved. Indeed, wherever practicable I have always insisted that this treatment should precede any operative undertaking. It must not be forgotten that any inflammatory condition round a vein in any part of the body is not devoid of risk. Such conditions not infrequently are followed by thrombosis and embolism with all their well-known dangers. And in the neighbourhood of the anus, where such a thrombosis is almost sure to become septic, this danger must always be kept in mind and all rough handling of an inflamed pile be avoided. But besides this danger there is also that of operation on an area in which inflamed veins lie. Not only is there very little prospect of satisfactory union of a wound where such a condition exists but there is also the danger of dislodging septic thrombi and also septic absorption from the wound. In all cases, therefore, you will do well to wait until such treatment as that just described has brought about a subsidence of all inflammation before any operation on this region is attempted. The only exception to this rule is, perhaps, that of the single suppurating external pile which after being carefully cleansed with antiseptics may be slit across in the long axis of the bowel and its contents evacuated just as an abscess would be emptied elsewhere. But this should be done with care and by no means treated lightly.

How are we now going to deal with well-marked piles which have resisted the treatment indicated above? In the first place, we will suppose the case of a single large one protruding from the margin of the anus. The older method of simply tying a ligature round its base and allowing it to slough off may be rejected at once as painful and not without risk as the separation of the strangled mass cannot take place without septic suppuration which, for reasons given, is dangerous. Of course, the base of the pile can be clamped in the long axis of the bowel and burned through with a cautery knife. This gives an aseptic surface to begin with, but one which is sure to be fouled later, and when it granulates up there may be more contraction of the anus at the spot than is comfortable, although, as the line of shrinking is in the long axis of the bowel, it is not as a rule excessive. But the best mode of dealing with a solitary pile where the rest of the anus is healthy is based on the conclusion that with great care a wound in this region can be induced to heal by first intention as

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; A. P. W.; Messrs. Aked and Aked, Lond.; Asylums Committee, County of London, Clerk of.

B.—Dr. C. Hubert Bond, Epsom; Mr. Arthur E. Barker, Lond.; Mr. C. Birchall, Liverpool; Dr. R. M. Buchanan, Glasgow; Mr. W. G. Burcombe, Lincoln; Bolton Infirmary, Secretary of; Berrow's Worcester Journal Co., Manager of; Messrs. S. K. Broadbent and Co., Douglas, Isle of Man; Mr. H. W. Bayly, Lond.; Dr. A. T. Brand, Driffield; Mr. W. H. Brooks, Leicester; Dr. Philip Boobbyer, Nottingham; T. B. Browne, Ltd., Lond.; The Bayer Co., Lond., Secretary of; Mr. J. W. Benson, Lond.; Birmingham General Hospital, Secretary of; Messrs. J. Bale, Sons, and Danielsson, Lond.; Mr. E. Stanmore Bishop, Manchester; British Dental Association, Lond., Secretary of; Birmingham City Asylum, Secretary of; *Birmingham Daily Post*; Mr. P. Bourjeaurd, Lond.

C.—Mr. John Currie, Edinburgh; Dr. Carron de la Carrière, Paris; Mr. F. W. Clarke, Chorlton-cum-Hardy; Coventry and Warwickshire Hospital, Secretary of; Miss M. E. Chapman, Lond.; Co-partnership Tenant's Housing Council, Lond., Organising Secretary of; Messrs. A. H. Cox and Co., Brighton.

D.—Sir Dyce Duckworth, Lond.; Mr. W. E. Dixon, Cambridge; Mr. Leonard S. Dudgeon, Lond.; Mr. T. Graeme Dickson, Buxton; Denver Chemical Manufacturing Co., New York, Manager of; Mr. T. Davies, Chesterfield; Mr. Elgar Down, Stoke, Devonport; Doctor, Harrow; Major *C. Donovan, I.M.S., Lond.*

E.—Mr. C. B. Evans, Lond.; Dr. Erasmus Ellis, Leicester; Messrs. Ede, Son, and Ravenscroft, Lond.

F.—Messrs. Festersen and Co., Basle; F. N.; Forward Publicity Co., Birmingham.

G.—Dr. G. A. Gibson, Edinburgh; Mr. A. R. Gunn, Edinburgh; Mr. J. T. Gradon, Oxford; Dr. B. K. Goldsmith, Manchester; Mr. A. T. Griffith, Malvern; Mr. Sigismund Goetze, Lond.; Dr. A. G. Gibson, Oxford; Dr. *W. Gordon, Exeter*; Dr. A. Grandjean, Paris; Gloucester General Infirmary, Secretary of; Mr. J. H. P. Graham, Brecon; Mr. Harold Grimsdale, Lond.; Grimsby and District Hospital, Secretary of.

H.—Dr. Nevill Heard, Swanage; Captain W. F. Harvey, I.M.S., Kasauli; Messrs. Hancocks, Manchester; Messrs. Hodder and Stoughton, Lond.; Dr. S. Hodgson, Salford; Messrs. Hampton and Sons, Lond.; Hastings and St. Leonards Borough Association, Hon. Secretary of.

I.—International Art Gallery, Lond., Manager of.

J.—Mr. R. R. James, Lond.; Dr. Robert Jones, Lond.

K.—Mr. R. Kuleke, Bergedorf; Messrs. J. Keele *and Co., Lond.*; Dr. Harold A. Kisch, Lond.; Messrs. Karo and Co., Lond.; Dr. W. H. Kirk, Partick; Dr. H. Cameron Kidd, Bromsgrove; Messrs. R. A. Knight and Co., Lond.; Kirros.

L.—Mr. H. K. Lewis, Lond.; Loughborough and District General Hospital, Secretary of; Mr. G. Levy, Lond.; Liverpool Corporation Stationery, Printing and Advertising Department, Superintendent of; Rev. E. S. Longhurst, Rolleston; Mr. A. L. Loughborough, Lond.; Mr. T. P. Legg, Lond.

M.—Dr. J. E. Mitchell, Canton; Messrs. Matthaei and Co., Lond.; Maltine Manufacturing Co., Lond.; Mr. R. Mosse, Berlin; Dr. J. C. McWalter, Dublin; Dr. H. Macnaughton-Jones, Lond.; Mr. M. McNally, Dublin; *Dr. G. S. Middleton, Glasgow*; M.B., Swanage; Dr. R. O. Moon, Lond.; Dr. F. P. Mackie, Lond.; Mr. W. D. McMurtry, Lond.; Mr. Louis H. L. Mackenzie, Lond.; Dr. W. T. Mason, Leicester.

N.—Dr. F. H. Noke, Lond.; Messrs. F. Newbery and Sons, Lond.; Dr. George H. F. Nuttall, Cambridge; National Hygienic League, Lond., Treasurer of; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Dr. N. B. Odgers, Northampton; Oxford University, Registrar of; Ophthalmological Society of the United Kingdom, Lond.

P.—Mr. Y. J. Pentland, Edinburgh; Paddington, Town Clerk of; Dr. F. W. Pavy, Lond.; Mr. C. Pool, Lond.; Plumbers, Worshipful Company of, Lond.; Poor-Law Medical Officer's Association, Lond., Hon. Secretary of; P. P., Stratford-on-Avon; Messrs. Peacock and Hadley, Lond.; Mr. Seton Pringle, Dublin; Pallas.

R.—Dr. J. D. Rawlings, Dorking; Royal College of Surgeons in *Ireland, Dublin, Registrar of*; Royal Photographic Society of Great Britain, Lond.; Dr. Walter Rigden, Lond.; Royal Albert Asylum, Lancaster, Secretary of; Royal Victoria Infirmary, Newcastle-on-Tyne, Secretary of; *Messrs. E. J. Reid and Co.*, Lond.; R. T.; Mr. David D. Robertson, Lond.; Captain G. A. Roberts, I.M.S., Quetta, India; Mr. R. Redpath, Newcastle-upon-Tyne; Royal British Nurses' Association, Lond., Secretary of; Messrs. Reynolds and Branson, Lond.; Dr. J. Reid, Doune; Messrs. Reavell and Co., Alnwick; Royal College of Surgeons, Lond., Secretary of; Royal Army Medical Corps (Volunteers) (London Companies); Dr. J. Reid, Lond.

S.—Professor W. Stirling, Manchester; *Dr. George H. Simmons*, Chicago; *South Wales Daily News*, Cardiff; Sheffield University, Registrar of; Sheffield Corporation, Clerk to the; Messrs. Spiers and Pond, Lond.; *South Wilts Mirror*, Salisbury, Manager of; Sanitary Inspectors' Examination Board, Lond., Hon. Secretary of; Dr. L. B. Shaw, Lond.; Mr. J. P. Sharples, Stamford Bridge; Mr. W. D. Spanton, Hanley; Sandgate Urban District Council, Clerk to; Mr. C. St. Aubyn-Farrer, Lond.; Dr. Samuel Sloan, Glasgow; Messrs. G. Street and Co., Lond.; Scholastic, Clerical, &c., Association, Lond.

T.—Taunton and Somerset Hospital, Secretary of; Dr. W. Pickett Turner, Lond.

W.—Mr. J. Williams, *Bradford*; Worcester County Council, Clerk to the; Messrs. H. K. Wampole and Co., New York; Dr. R. J. Willan, Newcastle-upon-Tyne; W. H.; Messrs. W. Wood and Co., New York, Dr. R. Rutter Williamson, Bhandara, India; Messrs. H. D. Wells and Co.; Miss A. M. White, Lond.; Dr. Thos. Wilson, Birmingham; Worthing, Borough Meteorologist of; West London Medico Chirurgical Society, Hon. Secretary of; Dr. Thos. Wilson, Birmingham; Messrs. H. Wilson and Son, Lond.

Y.—Dr. Meredith Young, Stockport.

Z.—Mr. C. H. Zeal, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Professor H. B. Allen, Melbourne; Mrs. Aldersley, Nelson; A. A. B.; A. H. P.; A. M. R.; Dr. J. Andrew, Coatbridge; Dr. F. S. Arnold, Hailey; A. C. G.; A. C. O.

B.—Dr. S. C. Bose, Dacca, India; Miss Boland, Passage West; Messrs. Bannatyne, Kirkwood, France, and Co., Glasgow; Messrs. Blinko and Son, Ramsgate; Dr. W. Beedie, Kimbolton, New Zealand; Mr. A. Baxter, Pontypool.

C.—Mr. M. Cheale, Bournemouth; Sir Francis R. Cruise, *Dublin*; Mr. E. P. Court, Horsmonden; Messrs. Cornish Bros., Birmingham; C. S. O. N; Messrs. Clift, Bros., West Bromwich; Cheltenham, Borough Accountant of; Dr. H. Cumpston, Lond.; Messrs. *W. Carling and Co., Hitchin*; Cardiff Infirmary, Secretary of; Croydon County Borough, Education Committee of; C. J. C. N.; Mr. A. Connell, Sheffield; Mr. R. A. Caldwell, Bournemouth; Dr. R. H. Cole, Lond.; Chelsea, *&c., Dispensary, Secretary of*; Mr. J. J. Crowley, Cork.

D.—Mr. M. L. Dixon, Dartford; Devonshire Library, Buxton; Derby Corporation, Accountant of; D. W.

E.—Mr. J. Evans, Maidstone; East Suffolk and Ipswich Hospital, *Secretary of*; E. K. H.; E. M. J.

F.—Dr. A. Mearns Fraser, Portsmouth; Miss Fair, Brighton.

G.—Mr. H. O. Gough, Redland; Mr. A. Griffiths, Clay Cross; Dr. J. Gordon, Northampton; Mr. J. *Gallagher, Liverpool*; G. B. C.; Dr. A. S. Gubb, Aix-les-Bains; Messrs. Gould and Portmans, Lond.

H.—Dr. A. F. Hughes, St. Lucia; Dr. Hollings, Ripponden; H. B.; Messrs. Hough, Hoseason, and Co., Manchester; H. F. W.; H. E.; Miss Hartnell, Lond.; Mr. P. Howe, Ashton-under-Lyne.

I.—Mr. A. B. Ibbott, Bushey; Miss E. R. Inge, Haslemere; Captain H. Innes, I.M.S., Charmouth.

J.—Mr. W. Judd, Lond.; J. F. W.; J. W. L.; J. H.; J. E. R.; Dr. J. F. Jones, Port Said; Mr. P. J. Jardine, Alfriston.

K.—K. G.

L.—Miss F. Leech, Lond.; Mr. A. Leckie, Lond.; Mr. T. Liddle, Edin.; Mr. J. Laurie, Blackpool.

M.—Dr. H. E. Maples, Lond.; *Dr. C. Mercier, Lond.; Manchester* Eye Hospital, Secretary of; Dr. J. McCaw, Belfast; Mr. H. Malcolm, West Kilbride; Dr. W. Milligan, Manchester; Mr. T. Montgomery, Hest Bank; Mr. F. S. Mackenzie, Lond.; Mrs. *Winchester Myers, Nelson*; Dr. E. H. Morton, Lond.

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A Clinical Lecture

ON

THE NATURE AND TREATMENT OF PILES.

Delivered at University College Hospital
on Feb. 27th, 1907,

BY ARTHUR E. J. BARKER, F.R.C.S. ENG.,
PROFESSOR OF SURGERY AT UNIVERSITY COLLEGE HOSPITAL SCHOOL
AND SURGEON TO THE HOSPITAL.

GENTLEMEN,—A number of cases of piles having recently been under my care in the wards and outside the hospital has suggested that the subject of the nature and treatment of hæmorrhoids would be a suitable one for a practical clinical lecture while the cases you have seen are fresh in your memories.

But first, what is a pile? This question is not a difficult one to answer. A pile is primarily a dilated or varicose condition of one or more of the plexus of veins lying under the mucous membrane of the last inch or so of the lower bowel. Probably there is a congenital weakness of the muscular coat of these veins in most cases, just as we find the same thing in the case of the veins of the leg. If we inquire of patients suffering from hæmorrhoids we constantly hear that their parents were similarly afflicted or other members of the same family and a considerable number of them have developed the trouble early in life. But this is not all. There are other factors in the production of piles. These divide themselves into two groups: first, any cause of obstruction to the return of blood through the inferior hæmorrhoidal plexus; and, secondly, any cause of local irritation. In the first group come a sluggish liver with engorgement of all the veins of the portal system, heart disease, pregnancy, and ovarian cysts and other pelvic tumours, and, most common of all, a loaded bowel in chronic constipation, and prolonged standing or sitting. In the second come every kind of septic irritation, the commonest being want of cleanliness after defæcation; then local mechanical irritation, such as chafing, bumping on rough roads, sitting on damp seats, &c.

It is easy to understand how the factors in the first group act upon veins congenitally weaker walled than usual. They become simply more and more distended as their weak walls yield to the strain from above. But at first sight it is not quite so easy to explain how local irritation plays a part in their production. And yet a little thought makes the matter plain. Local irritation prolonged for any time leads to hyperæmia and in the end to inflammation of a chronic type, with gradual loss of tone in the walls of the vessels in the inflamed area and their gradual dilatation by the stress from within. This inflammation has also other effects. It may lead to clotting in the veins, with or without suppuration, and it may cause chronic thickening in the tissues around which may become permanent. Piles formed in any of these ways, alone or combined, only exist in the lowest part of the rectum in or about the anus—the "pile-bearing area" of Whitehead. They may come to lie quite internal to the anal sphincter or external to it, or sometimes one, sometimes the other, when they are called intermediate. They may be spongy owing to great vascularity, or hard from periphlebitis, or clotted and inflamed from a more acute inflammation.

As a rule most patients who consult us for piles have been suffering from them for a long time. A variety of causes have been at work but most usually perhaps want of cleanliness and lack of attention to the emptying of the bowels. But as a rule they only come to us surgeons at a time when they think that nothing but an operation will relieve them. And this brings us to the question of treatment.

Now the first point I want you to understand is this, that many cases of piles even when very large do not require operation for their cure. Of course, some are beyond the reach of any other treatment short of operation. Again, you will do well to remember that many cases of very large piles which will ultimately require operation are not when you first see them in a safe state for operative treatment. By this is meant that in many cases as they come to you there is much septic irritation about the anus and rectum from want of cleanliness. On the one hand, this is keeping up congestion and dilatation of the veins, and on the other any operation undertaken at this time would be attended with risk from dislodgement of clots and further would not be followed by that union without suppuration which is necessary if contraction of the anus is to be avoided. These points cannot be insisted on too much or too frequently.

The first thing, then, in any case of piles is to see that they are relieved from any source of engorgement from within by gentle laxatives and bodily exercise and that the local condition be patiently treated on antiseptic principles. The piles and surrounding parts should be washed over three times daily, while the patient brings them into prominence by straining. The first washing should be done with soap and water and it may be said of this that if it were employed night and morning by those who suffer from pruritus and a slight tendency to hæmorrhoids there would be far fewer cases which needed operation. Not only is this treatment preventive of piles but when they are undoubtedly present they will become much smaller and even disappear when it is carried out patiently and regularly. But when piles are present in abundance and covered by irritating mucous discharge as a rule antiseptics are used with advantage if not too powerful. Perhaps the best of all is bichloride of mercury, 1 part in 1000; at least, I have found it so. After the first washing of the piles with soap and water they are gently bathed with this lotion by means of a piece of gauze, old linen, or wool steeped in lotion. If possible they should then be reduced within the anus but without force, and the patient should where convenient lie down for a little time afterwards. This should be done in the morning after the bowels have been relieved and at night before going to bed. It is surprising what improvement will take place even in very bad cases under this treatment. Over and over again I have seen large crops of piles disappear completely and patients who were miserable before and who had made up their minds to operation have been able to postpone the latter indefinitely. But even suppose that hæmorrhoids are not quite cured in this way the improvement in their condition under this treatment is usually so great that when an operation comes to be done the prospects of its success are much improved. Indeed, wherever practicable I have always insisted that this treatment should precede any operative undertaking. It must not be forgotten that any inflammatory condition round a vein in any part of the body is not devoid of risk. Such conditions not infrequently are followed by thrombosis and embolism with all their well-known dangers. And in the neighbourhood of the anus, where such a thrombosis is almost sure to become septic, this danger must always be kept in mind and all rough handling of an inflamed pile be avoided. But besides this danger there is also that of operation on an area in which inflamed veins lie. Not only is there very little prospect of satisfactory union of a wound where such a condition exists but there is also the danger of dislodging septic thrombi and also septic absorption from the wound. In all cases, therefore, you will do well to wait until such treatment as that just described has brought about a subsidence of all inflammation before any operation on this region is attempted. The only exception to this rule is, perhaps, that of the single suppurating external pile which after being carefully cleansed with antiseptics may be slit across in the long axis of the bowel and its contents evacuated just as an abscess would be emptied elsewhere. But this should be done with care and by no means treated lightly.

How are we now going to deal with well-marked piles which have resisted the treatment indicated above? In the first place, we will suppose the case of a single large one protruding from the margin of the anus. The older method of simply tying a ligature round its base and allowing it to slough off may be rejected at once as painful and not without risk as the separation of the strangled mass cannot take place without septic suppuration which, for reasons given, is dangerous. Of course, the base of the pile can be clamped in the long axis of the bowel and burned through with a cautery knife. This gives an aseptic surface to begin with, but one which is sure to be fouled later, and when it granulates up there may be more contraction of the anus at the spot than is comfortable, although, as the line of shrinking is in the long axis of the bowel, it is not as a rule excessive. But the best mode of dealing with a solitary pile where the rest of the anus is healthy is based on the conclusion that with great care a wound in this region can be induced to heal by first intention as perfectly as in any other part of the body. There is a general belief that because this is the channel by which the system is relieved of its solid impurities it cannot be expected that wounds in or about the anus can heal as aseptic wounds in other parts do. But this is not so. It is all a question of preliminary treatment. And here again some old traditions still exist. The practice hitherto in preparing a patient for a pile operation has *often* been to give a dose of some strong laxative, such as castor oil, the day before operation and an enema a few hours before. The consequence of this practice is too often that at the moment of relaxation of the anus by the anæsthetic or in the course of the operation a quantity of loose motion is discharged which seriously imperils the chances of primary union. This is a wrong course to pursue as to the time of preparation. When we wish thoroughly to clear out the bowel we should begin much earlier. The laxative should be given three or four days *before operation for* two days in succession, assisted if necessary by enemata or as *often* as is found indispensable to unload the colon and secure liquid motions free of old stagnant fæces. After this the bowels should be left in a state of rest for at least 24 hours before operation. By these measures we secure an empty bowel free of mucus and less engorged with blood than if it were in a state of action. It can consequently be cleansed and remain clean during the operation.

Another point which is essential for a proper control of the anus during operation is that it should be perfectly relaxed. This is to a certain extent secured by the general anæsthesia employed but not adequately. For this reason it is well in all cases to stretch the sphincter with the thumbs. First one thumb is inserted into the anus, then the other alongside of the first, and then with the fingers spread out on the nates on both sides by making the movement of closing the hands the thumbs are separated slowly and steadily from one another and the sphincter is thus steadily stretched without any sudden pull which might overdo the distension. If spinal analgesia is employed this stretching is unnecessary, as the sphincter is thoroughly relaxed, with loss of sensation at the same time. In either case the pile or piles project with the mucous membrane of the bowel and all the parts around can be cleansed with antiseptics and finally by a flush of sterile saline solution. But before the operation is begun it is well *to stuff the rectum with a wisp of sterile gauze to prevent* any mucus or motion from coming down during the procedure. To remove a single pile under these conditions is now easy. It is simply drawn forward with suitable pile forceps and its base is included between two elliptical incisions in the long axis of the bowel.' These incisions should only divide the mucous membrane and define the root in which run the vessels. This root is now surrounded with a fine thread and tied tightly and the pile is snipped off with a scissors outside the ligature. The mucous membrane is then closed over the stump and the whole area is dusted with iodoform. After this, and only after the dusting, the wisp of gauze is removed from the rectum. Then a pad of iodoform gauze secured by a T bandage is placed over the anus. Such an operation ought to be, and is, followed by *primary union* if done cleanly, and there is not the least damage to the functions of the anus.

But there are other cases in which the whole of the inferior hæmorrhoidal plexus is involved and there *is a more* or less complete *ring of piles round the anus*. Here we may proceed if we like upon the same lines as above and remove each pile separately. But if we do so we must be prepared to find that the amount of mucous membrane is somewhat too little to cover all the stumps and there *is some risk of* contraction of the anus if we have granulating surfaces left. For my own part, I believe that in such cases there is no better operation than that known as Whitehead's. But then it must be done on the lines which were so well laid down by this surgeon many years ago. The objections which have been raised to it from time to time are based upon conclusions from operations which in many cases have been done without due regard to the principles laid down by the originator of the operation. Whitehead started from the fact that in a case where the anus was encircled by a ring of piles the whole practically of that part of the inferior hæmorrhoidal plexus lying within an inch or so of the margin of the anus was involved in the varicose condition. From this he argued that no operation could be considered complete which did not remove the whole of this plexus. By the removal of this not only would the condition present be removed but also the chance of any return of piles, inasmuch as the plexus from which they always spring had been completely taken away. To effect this he proceeded as follows: after the bowel had been unloaded as above described and cleansed by thorough washing, in order to gain complete access to the "pile-bearing" area the sphincter ani was first stretched as above described until quite relaxed. The consequence of this should be, and is if rightly done, that there is a prolapse of the mucous membrane of the lower inch of the rectum. When this has again been thoroughly cleansed the forefinger of the left hand is inserted into the anus and between it and the thumb the anterior part of the prolapse is drawn down. Then at a point in front where the purple skin of the anus proper merges into the skin around a short transverse slit is made between the two with curved scissors at the most anterior part of the anus. Into this slit the blunt point of the scissors is inserted under the skin and forced outwards first on one side and then on the other until about half an inch has been undermined. This is then evenly cut away and the scissors are thrust again under a fresh portion of skin which is similarly cut until the whole circumference of the purple skin has been separated from the true skin around the anus. If the right depth has been cut off this is quite easy and is only followed by very trifling bleeding. Holding the ring of piles now separated from the skin of the anus in a series of pile forceps and drawing gently on the whole tube of mucous membrane it is now easy with an elevator, or, better still, with closed blunt-ended scissors, to push back, as it were, the external *sphincter ani*, which is well seen, until all round the anus it is separated from the tube of mucous membrane for about one inch. This tube, containing all the piles and "pile-bearing" area, consists not alone of mucous membrane but of submucous tissue, veins, and a thicker layer of condensed fibrous tissue which separates it from the external sphincter. If the stripping takes place accurately between it and the sphincter, as should always be the case, it is particularly easy and very little blood is lost. If the beginner dissects in the muscle on the one hand, or among the veins on the other, there is much oozing, but a little experience will enable the surgeon to work at the proper depth.

The tube of pile-bearing area being now drawn down for about an inch to one and a half inches is snipped through for about half an inch transversely at a point at which when lifted up the divided edge reaches to the cut skin. The edge so produced is stitched to the corresponding edge of the skin accurately, any vessel which may have been divided being included in the ligature. It is not worth while to stop *to tie it* separately. In placing *these stitches* and all those which follow them it is well to include a good depth of mucous and the sub-mucous tissues to obtain a good hold for the threads. When all is secure here further snips are successively made, continuing the first *on both* sides transversely from before backwards. But as each is made the cut tube is stitched to the skin at once as before previously to making the next snip. In this way hæmorrhage is avoided and the tube is cut away more evenly at the same level and when the last few snips only remain we see the new anal margin almost completed with little or no bleeding. The last transverse snip and attachment of the cut edge to the skin posteriorly finish the procedure, an entire ring of piles having been taken away *with the plexus of veins* to which they belonged. The appearance of the anus is then nearly normal. The healthy mucous membrane brought down from above is seen attached evenly to the skin of the margin over *the sphincter* which has not been injured in any way. As the sphincter will *remain* weak after having been stretched usually for some days the mucous membrane is more evident for that time, but as the muscle recovers power it is drawn inwards to its usual height unless too much skin externally has been removed, *when it forms* a moist ring for some time after healing has been completed. But this is only a transient condition, the mucous membrane external to the opening of the anus being before long hardened into the same texture as the original *marginal* skin of the opening and ceasing to secrete.

When the stitching has been completed the parts are dusted with iodoform, the gauze plug *is removed* from the rectum and a morphine *suppository* is introduced. A pad of gauze over the anus is all that is now needed. The after-treatment consists in keeping the part clean with a little boric lotion daily or, better, 1 to 1000 bichloride solution, followed by dusting with *iodoform*. The fine stitches may be left to themselves. They include but a small amount of tissue and are tied in the long axis of the rectum and cut their way out without any trouble. On or about the sixth day an oil enema is given and allowed to remain as long as possible. If it comes away after a few hours it brings away softened fæces. If not a soap-and-water enema is given on the next day. After each motion the anus is washed and dusted as before.

Objections have been raised to this operation here and there but to me they seem groundless. It is urged that there is a risk of suppuration round the stitched ring and consequent contraction. This I can honestly say I have never yet seen, though I have operated in many scores if not hundreds of cases by this method. The objection arises in the minds of those who can hardly believe in an aseptic operation about the anus. But with proper preparation this can be easily accomplished. And during the operation if the dissection is carried out with clean boiled instruments rather than with the fingers there is no reason why the wounded surfaces should not remain aseptic. As a matter of fact, which some of you can vouch for as having seen these cases, the healing is faultless. Another objection which is raised is that the mucous membrane remains moist and painful if it projects over the edge of the anus. If it does project it is due to the fact that too much of the true skin has been removed and the mucous membrane has had to be drawn out to meet it. It is easy to avoid this in the first place, but if it is after healing too low down it is soon converted into normal marginal tissue and gives little trouble in the meantime if washed twice daily with the bichloride solution.

Of all the various operations which I have done or seen done this particular one recommends itself to me above all in cases of advanced piles. And among the very large number of patients I have operated upon in hospital and private none have been dissatisfied with the result. But from the way it is described in some standard works it is plain that the principles and details of Mr. Whitehead have not been clearly appreciated and that operations have been wrongly done. One great merit it certainly has which is not possessed by other methods—i.e., that all tendency to future piles is prevented.

A Clinical Lecture

ON

THE TREATMENT OF HYSTERIA.

Delivered at the West End Hospital for Diseases of the Nervous System,

BY THOMAS D. SAVILL, M.D. LOND.,

PHYSICIAN TO THE HOSPITAL.

GENTLEMEN,—The rational treatment of hysteria must depend upon the application of the principles of pathology and etiology. These I have already discussed on several occasions.[1] Many authors regard hysteria as a psychosis pure and simple and most authors regard its essence as a psychosis which is attended by physical manifestations. I cannot entirely agree with either of these views. Undoubtedly emotional instability is a characteristic of hysterical subjects, but this is only a part, the mental part, of a more widespread instability. A prolonged study of the disorder under somewhat exceptional opportunities has led me to conclude (1) that hysteria consists of an instability or undue irritability of all the nervous and reflex centres throughout the body, and particularly those of the vaso-motor and sympathetic systems; (2) that hysterical paralysis or tremor and many other hysterical phenomena hitherto unexplained are produced by vascular changes in the nervous system or elsewhere; and (3) that the essential defect in the nervous system upon which hysteria depends, whatever it may be, is inborn and inherent—that is to say, the reflex centres in hysterical subjects are throughout life more unstable than those of other people. Many intercurrent or accidental causes have been recognised of late years as capable of determining hysterical manifestations—causes which do not determine hysterical outbreaks in non-hysterical people simply because the reflex centres of the latter are more stable—such as fear, grief, religious exercises, shocks, injuries, all debilitating conditions, pregnancy, parturition, sexual excess, overwork, worry, anæmia, various acute and chronic intoxications such as alcohol, syphilis, lead, rheumatism, diabetes, typhoid fever, influenza, and other specific fevers.[2] There are other causes, not so well recognised, to which I shall direct your attention to-day.

The remarks I have to make on the treatment of hysteria will come under five headings—(*a*) certain general measures directed to improve the tone and nutrition of the nervous system and to allay its irritability; (*b*) other symptomatic treatment, mainly by the aid of drugs; (*c*) etiological treatment which depends on the discovery and eradication of the determining cause of the hysterical manifestation in operation; (*d*) the use of vaso-constrictors, vaso dilators, and blood remedies; and (*e*) educational and other preventive measures.

(*a*) The general measures directed to the improvement of the nervous irritability may consist of rest, isolation from home surroundings, food, massage, electricity, hydrotherapy, and psychotherapy or hypnotism.

1. Of all methods of treatment rest is of the greatest value in allaying any irritability of the nervous system—rest of mind and rest of body. All sources of peripheral irritation must be removed from the body and all sources of worry or anxiety from the mind. Subjects demanding the smallest exercise of the judgment must be excluded. Complete rest of the body can only be obtained in bed, and the patient should not be allowed to sit up or to take any movement that can be avoided. A method of treatment involving complete rest has been carefully elaborated by Mrs. William Archer. The patient is gradually educated to relax completely all the muscles and to direct the mental attention to the relaxation of the muscles, practices which are much more difficult than would at first sight appear. Abundance of sleep is indispensable to hysterical patients, whether as a preventive or remedial agent, and it is sometimes justifiable to administer hypnotic remedies under due precautions.

2. Removal from the conditions under which the disease arose is almost as important as rest, for it not only relieves the patients at once from the worries incidental to their surroundings but it attracts their attention into new channels and away from their disorder. To establish complete isolation of the patient from her previous surroundings it is necessary in many cases not only to remove the patients from home but to forbid any letters to be written or received and to prohibit all visitors or communications with friends. A difficulty often arises in this connexion with the friends and relations who wish to continue their sympathetic manifestations and may not like to surrender the charge of the patient into the hands of strangers. It may, however, be diplomatically explained to them that this is done not from any doubt about the value of their ministrations but simply to place the patient under conditions which differ from those under which the disorder arose. A daily report of the progress can be sent by the nurse or medical attendant.

3. As much easily assimilable food as the patient can take improves the nutrition of the nervous system and of the body generally, and in order to increase the power of assimilation this increased quantity of food may be associated with (4) general massage. The combination of these four measures —rest, isolation, abundance of food, and massage—constitute the system of treatment first adopted by the late Professor J. M. Charcot at the Salpêtrière and afterwards known as the Weir-Mitchell treatment. The details of this treatment are too well known to need description. General massage is given daily with a double object—to soothe the nervous system (by the stroking movements) and to promote the tissue changes and the nutrition of the body (by kneading and other movements). Tapotement is a procedure I do not recommend. Half an hour of massage may be gradually increased to one hour twice daily. The patient should have a glass of warm milk and be instructed not to speak or move a muscle for an hour after each sitting. As a rule no drugs should be given except an occasional aperient or dose of bromide for sleeplessness.

It is not every case of hysteria which is suitable for treatment by the Charcot-Weir-Mitchell methods, and these should never be adopted until skilled medical advice has been obtained, and only when they can be carried out under skilled medical supervision. Without these conditions serious harm may result to the patient and discredit be brought upon a valuable means of treatment. It is important to satisfy oneself by a very thorough examination as to the absence of all organic disease and that no toxic, septic, or organic cause is in operation; it is also of importance that the digestive organs should be in good order. The most suitable cases are: (1) those where the nutrition is below par; (2) those which are purely of nervous origin; and (3) those in which there is considerable irritability of the neuro-muscular system, as evidenced by twitchings and increase of the superficial and deep muscular reflexes. Persistent gloom and despondency are relatively rare in hysteria (excepting in the male), but such cases are wholly unsuitable for this treatment, and I have seen considerable harm done thereby. Cases presenting mental aberration of any kind require considerable caution.

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[1] THE LANCET, July 20th, 1901, p. 119, and Jan. 30th, 1904, p. 273; Clinical Journal, Dec. 1st, 1897, May 25th and June 1st, 1904.

[2] Georges Guinon: Les Agents Provocateurs de l'Hysterie. Delahaye et Lecrosnier, Paris, 1889.

It is not always necessary to employ all these methods. The case of a young married woman, whom I recently saw with Mr. R. Mortimer Johnson of Balham, illustrates the value of rest alone. She was suffering from hysterical hip-joint disease and after about one month's treatment of complete rest she has recovered. Moreover, the four measures named may be combined in varying proportions.

Here is a patient who illustrates the value of rest, isolation, abundant food, and systematised exercises.

CASE 1.—A girl, aged 17 years, came to the hospital as an out-patient under Dr. E. D. Macnamara, who has kindly allowed me to show the case, in June, 1906, for her third attack of aphonia, each of the attacks having come on suddenly and having been promptly cured by the application of faradism to the larynx. There is a long history of various hysterical manifestations, and for the last two years she has been losing the use first of one limb, then of another. She was brought again on Oct. 3rd for an attack of clonic spasms and weakness chiefly in the right arm, right leg, and left side of the face, which had come on quite suddenly in church a few days previously. The spasms were of considerable violence, and though they were choreiform in character they were somewhat more rhythmical than the chorea of Sydenham. She was at once placed in hospital under a treatment of rest, isolation from her relatives, and abundance of milk (without massage) and you will see now at the end of four weeks that she is perfectly well. There are no movements, no paralysis, and she has gained in weight. Latterly she has had systematised educational movements of the affected limbs, which is a measure I have found of great use in hysterical muscular affections.

5. Electricity is of considerable use, especially in cases which do not need, or cannot undertake, the more exacting forms of treatment just referred to. Galvanic and faradic current electricity is, I believe, very useful for hysterical affections of the voluntary muscles. The constant current is more useful for rigidities, the faradic for paralytic conditions, and you will remember how promptly this last-named form of electricity cured the aphonia in the case you have just seen. Static electricity seems to me to combine three effects. It undoubtedly produces a psychic effect upon the patient; it also seems to improve their general tone; and lastly, it appears to be of special value in cases of anæsthesia when used by the method of sparking. The case of hystero-traumatic paralysis to which I have previously referred[3] was an illustration of this. After three applications of static sparks to the arm which had been completely paralysed and anæsthetic for two months the anæsthesia immediately diminished in area, and after a few more sittings entirely disappeared. The most modern form of electricity in medicine is the high-frequency current and I have used it extensively in various nervous affections. It has appeared to me to do a great deal of good in some cases of hysteria, but the results have been too uncertain and too much confused by other and associated methods of treatment for me to speak with absolute certainty about the value of this form of electricity. It undoubtedly acts as a general tonic, probably by its effects upon the involuntary muscular tissue, more especially of the arteries, both in hysterical and other cases.

6. Hydrotherapy was extensively used by Charcot and others in France in former times with good result, but it has not been much employed in England. Undoubtedly cold or hot water applied to the surface of the body either by douches or baths acts powerfully on the neuro-vascular system and I have seen cases where the shock of a cold douche has not only acted as a powerful tonic but has involved the disappearance of hysterical manifestations. A previous attack in the patient you have seen to-day was suddenly cured by a wet pack. I have seen other cases where the efficacy of hot baths in calming an excited nervous system was very apparent; cases of muscular spasm are generally more amenable to heat than to cold.

7. Under psychotherapy may be included all kinds of persuasion, suggestion (auto- and hetero-) and hypnotism. These methods are not only useful in the slighter cases of uncomplicated hysteria but they sometimes form valuable adjuncts to the other methods just mentioned. It is here where the influence of the physician's personality or character over his patient and the confidence of the latter in the former play a leading rôle. The object of psychotherapy is to cultivate the will and the control of the patient over her unruly emotions and unstable reflex centres. She must be encouraged by firm but gentle methods in the belief that her excitement, paralysis, attacks or what not, can in some degree be controlled, and that each victory, however momentary, leads her to fresh victories hereafter. In the case of paralysis the patient may be taught to realise that the lost movements, or more correctly the ideo-motor centres, can be re-educated. I remember one male patient with a paralysed arm whom I induced to practise daily with a dynamometer, which he watched as it recorded the daily increasing indications of his returning strength. Another patient, a woman with paraplegia, I induced to take a step or two every two hours, and to interest herself in her rapidly improving power of walking.

Hypnotism, throwing a person into an artificial sleep in which he or she is susceptible of suggestion from others, undoubtedly finds a place in the treatment of hysteria, but unfortunately a good many hysterical patients are not hypnotisable. Auto-suggestion, the persuasion of self that one is really almost or quite well, is also of great value. The influence of a person's mind over his body has been recognised in our profession almost from time immemorial and those interested in the subject should read the treatise of the late Dr. Hack Tuke.[4] By suggesting to herself with sufficient force and sufficient frequency that she *is* well and free from pain, a patient may *become* well by the influence of the will over the bodily sensations—in the absence of serious organic disease. This principle forms the basis of several of the modern "cults" or "religions."[5] The potency of the will over the bodily sensations is beyond dispute and, with certain reservations to be mentioned shortly, is a valuable agent in the treatment of hysteria.

(*b*) Other symptomatic treatment mainly with the aid of drugs. First in regard to sedatives. The bromides still remain our sheet anchor for allaying the irritability of the reflex centres, and I prefer ammonium bromide to the other halogen salts. In my experience it may be given for a considerable time, even for years, without any detrimental effect, though it may have the disadvantage of hiding some curable causal condition upon which the hysterical manifestation depends. If the patient complains that she "lives on bromide and cannot do without it," this indicates that some chronic irritation is going on which must be removed. Opium and all its alkaloids are, as a rule, prohibited, not only for fear of the habit but because they do not invariably act as sedatives to these subjects, and because during the reaction phase the patient is generally worse than ever. Apomorphine hypodermically is, however, the most valuable remedy we have for the prompt cure of severe and recurrent hysterical convulsions; it produces copious emesis and the storm clears up like magic. Alcoholic stimulants are forbidden, partly because of the habit so easily engendered, but chiefly, at least in my experience, because alcohol is of itself capable of acting as a determining cause for hysterical storms. Valerian and asafœtida are still the most valuable stimulants we possess for the faintings, prostration, or collapse. The taste of these drugs is not as unpleasant as their odour, which may be partially counteracted by holding the nose while swallowing the medicine. Many attempts have been made to make these drugs more palatable and a partial success has been obtained in borneol isovalerianate.

(*c*) Without detracting from the foregoing methods of treatment which have been in vogue for a number of years there are others which have not yet been sufficiently recognised but which are of equal if not greater importance. The foregoing methods treat the disordered nervous system only; they are more or less empirical. Those to which I now propose to refer depend upon a careful study of the accidental or determining causes of a hysterical manifestation and are based on a thorough investigation of the physiological functions of hysterical patients from the point of view of general medicine and pathology. Having come to the conclusion that the chief seat of the reflex instability lay in the sympathetic vaso-motor systems, it occurred to me that nothing would be more likely to influence these centres than the condition of the blood. I therefore determined to look out for, and if possible correct, any derangement of metabolism, blood alteration, or constitutional disorder which might be in operation. And in confirmation of the view that blood alterations of this kind may determine hysterical outbreaks I have found that quite a considerable number of hysterical patients exhibit dermatographia, erythematous mottling, pruritus, twitchings of the limbs at night, general neuro-muscular irritability, or other symptoms suggestive of toxæmia. Moreover, I have also seen several cases where the hysterical paroxysms have been associated with paroxysms of urticaria, an undoubted toxo-angio-neurosis. Here, for instance, is one of these.

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[3] The Clinical Journal, June 1st, 1904, p. 103.

[4] Illustrations of the Influence of the Mind upon the Body. J. and A. Churchill, London, 1884.

[5] See *also* a chapter on Heathy Mindedness in "Varieties o Religious Experiences," by Professor William James.

CASE 2.—A female, aged 20 years, came to the out-patient department in June, 1905, for curious nervous attacks in which she lost all control over herself and behaved like a mad woman. These began with a feeling of fulness of the head which spread over the body and limbs, after which she "did strange things," and finally became completely collapsed. During these attacks the skin became very red. They were followed by "nettle-rash," which lasted a day or two after. Pressure in the right ovarian region produced the epigastric aura and the commencement of an attack in which one could see the flushing of the skin. Her teeth and digestion were very defective and I prescribed cascara, arsenic, bromide, and alkaline carbonates. She has improved considerably but still gets attacks in which both the nervous and the skin symptoms are less severe. Please notice that the nervous paroxysms and the skin symptoms appeared and disappeared together.

Here are some of the blood conditions (toxæmias) which may be in operation:—

1. It has long been known that various microbic toxins may act as determining causes of hysterical manifestations—such toxins as phthisis, syphilis, typhoid fever, scarlet fever, acute articular rheumatism, pneumonia, &c.[6]

2. It has also been recognised that alcohol, lead, mercury, sulphide of carbon, and other metallic and organic poisons may act similarly.[7]

3. Anæmia is very frequently met with in hysterical girls and when this is remedied the nervous symptoms sometimes cease. Here, for instance, is a girl, aged 20 years, who came to me three months ago suffering from troublesome hysterical attacks. She has been continuously treated by iron and the attacks have quite ceased, though all the other conditions and her home surroundings have remained the same. It is interesting to note that Professor H. Oppenheim,[8] who regards hysteria as a psychosis, points out as a fallacy in the diagnosis of anæmia in hysterical subjects that "the pallor of nervous individuals is not always a sign of anæmia but may be due to vascular spasm"—a statement which I can fully endorse.

4. Various debilitating conditions due to bad or insufficient air or food, with consequent alterations in the blood and the nutrition of the body, are also known to be conditions which may determine hysterical symptoms. And it may be practically useful to advise subjects liable to hysterical or nervous manifestations to keep records of their weight and to consult their medical man when this is falling.

5. All the foregoing are now matters of common knowledge, but it is not yet recognised what an important part gastro-intestinal derangements may play in the production of hysterical manifestations quite apart from debility or loss of weight. I am able to show you several illustrations of this.

CASE 3.—A young woman, aged 19 years, came to me in March, 1905, presenting a generalised rhythmical intention tremor, nystagmus, and all the symptoms of disseminated sclerosis. It is true that the disease had started suddenly five weeks before, after an hysterical attack of crying, but the symptoms appeared to me so characteristic that I could not help regarding the case as one of disseminated sclerosis. In extenuation of my error I may remind you of the impossibility in some cases of diagnosing hysterical tremor from disseminated sclerosis. I noticed, however, that her teeth were very defective and her gums ulcerated, and her mother stated that she had long been addicted to bolting her food and subject to constipation. I therefore prescribed for her salicylate of bismuth and cascara sagrada. After two months of this treatment she had made some improvement but the tremors and nystagmus still continued. In May she complained of swelling of the throat; the thyroid was noted as being large and the pulse was 140 per minute. The oral sepsis was remedied and the same treatment was persevered with, and by July all the symptoms had entirely disappeared. They have not returned since that time, now 16 months ago. Some might still regard this case as one of disseminated sclerosis with temporary improvement, but I would urge the sudden onset with a hysterical attack and the complete disappearance of all the symptoms of disseminated sclerosis. She still presents the hysterogenic ovarian reflex and complains from time to time of feelings of suffocation and I believe this case may be regarded as one of hysterical tremor determined by oral and gastro-intestinal sepsis.

CASE 4.—A married woman, aged 31 years, first came to the hospital in May, 1905, for hysterical attacks of various kinds. Sometimes these consisted of globus, sometimes of "dazed feelings," sometimes of trembling all over, with loss of power in the limbs. She has improved immensely under the same treatment as the last patient, and particularly during the last two months since she has taken castor oil regularly at night.

CASE 5.—A girl, aged 19 years, has been under treatment continuously since October, 1905, when she came for hysterical faints, attacks of suffocation, and inability to go on with her education as a pupil-teacher. I subsequently found she was passing mucus and "bits of skin in the stools" and after a prolonged course of treatment for mucous colitis she is now quite recovered from all the nervous and other symptoms.

CASE 6.—A girl, aged 16 years, came to the hospital in March, 1905, for convulsive seizures of considerable severity, coming on at each menstrual period ever since she first menstruated at the age of 14½ years, and occasionally in the intervals. As she was anæmic and constipated she was ordered iron and cascara with some improvement, though the fits still continued in a lesser degree. In November I discovered she had pyorrhœa alveolaris and a very notable enlargement of the thyroid, but without any of the other three signs of Graves's disease (proptosis, tachycardia, and tremor), which she told me had been noticed for a year or more, probably about the same time as the commencement of the fits. The defects in her teeth and gums were corrected in December, 1905; she has had no return of the fits for upwards of a year and feels quite well, though the thyroid is still slightly enlarged.

(*d*) I have during the last few years tried vaso-constrictors (e.g., ergot), vaso-dilators (e.g., pilocarpin), and remedies acting on the blood (e.g., calcium chloride) in cases of hysteria of various kinds, where there has been very noticeable irregularity in the vaso-motor regulator mechanism, or where I have had reason to suspect dilatation or constriction of the vessels of the central nervous system, usually in cases where other measures had failed. My efforts have not always been attended by success, for this is a new kind of treatment. Some of the cases I have recorded, and you may remember a young woman who was twice cured of her severe seizures by calcium chloride.[9] Another young woman who applied for flushings of the face and disagreeable obscure sensations all over the skin, sudden contractures of the field of vision, and dermatographia,[10] derived considerable benefit from the following prescription: extracti ergotæ, 3 grains; hamamelidin, $\frac{1}{2}$ grain; hyoscyamin, $\frac{1}{150}$ grain, thrice daily. Ergot seems to steady irregular vaso-motor action as well as to constrict the vessels, as the following case shows.

CASE 7.—A married woman, aged 32 years, came to the hospital in May, 1902, for attacks of "fear of impending death" followed by palpitation and staggering which came on usually in the street but also during the night without apparent cause. She also complained of nervousness, attacks of "shaking" and acroparæsthesia. She usually felt very cold but was also subject to "hot flushes." The hands were very blue. All these symptoms had come on gradually during the past few years. Since the age of 18 years she had been liable at times to go off into a trance lasting one or two hours, sometimes several times a day Her teeth were bad and I thought it wise first to have these attended to and the digestion improved by bismuth and diet. On Nov. 4th, 1902, I gave her calcium chloride (a remedy known to increase the coagulability of the blood), 20 grains thrice daily and nothing else but confection of senna once daily. The note two weeks later is that the "attacks of trance and other nerve symptoms are better; formerly one or two a day in series, lately none since taking med." But the digestion was upset and I had to return to the old medicine for a time. On Nov. 17th, 1903, I added extractum ergotæ liquidum (20 minims) to the medicine. This gave her very marked relief from the nervous symptoms. On Jan. 25th, 1904, it was noted that she was "so much better that she is taking the ergot medicine only once daily. The hands go white now instead of red." And for some time she ceased attending regularly. She still comes from time to time and whenever the ergot has been administered the nervous symptoms have ceased and they are now gradually disappearing. The case is interesting in this respect and also by the marked effect which the calcium chloride had upon the attacks of trance. Ichthyol, atropin, thyroid gland, and ovarian extract are also remedies which I have employed in various circumstances; but I hope to return to this subject on another occasion.

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[6] Georges Guinon: Loc. cit.

[7] Ibid.

[8] Oppenheim's Diseases of the Nervous System, translated by E. E. Mayer, p. 739. London: Lippincott and Co. 1904.

[9] THE LANCET, Jan. 30th, 1904, p. 273.

[10] The face of this patient is figured in the Clinical Journal, Jan. 9th, 1907, p. 197.

(e) Educational and other prophylactic measures are of great value when we remember the hereditary and inherent nature of this complaint. With careful education hysterical subjects may reveal brilliant intellects and a large proportion of them may become most useful and energetic members of the community. But when allowed to pass through a rigid form of schooling and to drag out a weary existence—circumstances commonly met with in the lower orders—they tend to gravitate into the workhouse, the brothel, or the prison. The cultivation of the will and of self-control is the central point in their education, so that the unruly reflex centres and emotions may meet their master in additional self-control. These children should be energetically, though with tact and kindness, taught to bridle their passions and to neglect small disagreeable sensations. It is of no use to get angry with them and call them shams; remember we are dealing with an individual of different nervous organisation and temperament from the average type.

The diet should be of the plainest and least stimulating kind, the life regular and free from any kind of excitement, and as much time as possible spent out of doors in contact with the grand but simple phenomena of nature. Nothing can be worse for these girls than the whirl and bustle of town life, nothing can be better than moderate exercise, bicycling, riding, or swimming. The question of sports where the exciting element of competition comes in must be carefully considered.

As age advances any tendency to introspection should, as far as possible, be quietly corrected, and especially by the cultivation of interests outside self. But, in guiding these people towards such counter attractions, screen them, as far as possible, from undue religious exercises and love affairs—two fatal directions which their fancies are very apt to take. On the other hand, the cultivation of the gentler qualities, pity, self-sacrifice, and work for others, leads to the formation of character and the self-control we desire. These people are often extremely selfish and if you can only cultivate unselfishness half the battle is won—self-control will surely follow.

If hysterical manifestations appear the patient should certainly be removed for a time from the family circle. I have sometimes found this alone sufficient to effect a cure. And even before any outbreak occurs it may be desirable, especially when the mother of the patient, as so often happens, is of an hysterical type, to consider the advisability of removing the girl or boy to the care of a judicious teacher or a suitable family. In these cases you will often be confronted with an unfortunate incompatibility between mother and daughter which will counteract all the good of the most careful education. Marriage, if suitable and happy, may prove to be the redemption of these subjects, not, as I have so often insisted on, by the gratification of the sexual passions, but by removal from incompatible surroundings, by giving to the patient fresh interests outside herself, and by the cultivation of unselfishness.

TWO CASES OF EXCISION OF RUPTURED SPLEEN.

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With an Account of the Blood Changes in the Second Case by
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CASE 1, *by* E W. ROUGHTON.—The patient, a child, aged seven years, was run over by a light van on Jan. 5th, 1906. On admission to hospital shortly after the accident she was found to be much collapsed, was pale and restless, the extremities were cold, and the pulse-rate was 120 per minute. Muddy marks on the clothing showed that a wheel had passed over the abdomen. I saw the child three hours after admission and found that the shock was still intense. The abdominal wall was hard and moving but little with respiration. Nothing else abnormal was detected. Feeling sure that there was some severe intra-abdominal injury, I decided to explore at once. On opening the abdomen a large quantity of dark-coloured blood escaped. The liver was intact but the spleen was found to be ruptured and in a pulpy condition. A ligature was passed round the gastro-splenic omentum and the remains of the spleen were removed. There were several loose bits. The peritoneum was sponged dry of blood and was filled with hot saline solution. The abdominal wound was closed as quickly as possible, only one layer of sutures being employed. During the operation saline solution was infused into the median basilic vein. The patient was much collapsed when she was put back to bed. Subcutaneous saline infusions were used during the next two days. For a week after the operation the temperature varied from 100° to 101° F. and the pulse from 120 to 140. Afterwards convalescence was only interrupted by a slight febrile attack on Feb. 10th and 11th, the cause of which was not ascertained. The patient was discharged on March 2nd.

The child was kept under observation until Dec. 4th, 1906. At no time was there any discoverable enlargement of lymphatic glands or alteration in the bones. The blood changes during the patient's stay in hospital are summarised in the subjoined table. The last column of the table gives a differential count of the white corpuscles nearly a year after the operation. The child was seen again in June, 1907: she then had some enlargement of the glands in the axillæ, groins, and on both sides of the neck. Her general health was quite good.

CASE 2, *by* T. P. LEGG.—On Nov. 25th, 1903, a little girl, aged 12 years, was admitted to the Royal Free Hospital. It appears that at 9 30 P M., whilst running in the street she fell against the kerbstone, striking the front of her abdomen. She went home and fainted. At 10 o'clock she was brought to the hospital. The child was in a good deal of pain; there was no evidence of any injury to the abdominal contents nor any bruising of the parietes. The pulse was 88 per minute. At midnight she was sleeping quietly, lying on her right side. The pulse had not increased in frequency; further examination did not reveal anything abnormal. During the night the pulse became more frequent hour by hour and next morning at 11 o'clock it was 128. The abdomen, which had become slightly distended, was distinctly rigid and tender on palpation, especially to the right of, and at the level of the umbilicus, where there was also slight discolouration of the skin. At this place there was an impairment of the percussion note; both flanks were resonant. The liver dulness was present. There had been no vomiting for several hours. The urine was normal. There was no marked facial pallor and the child was not restless. It seemed clear that some serious injury had resulted from the fall, the diagnosis lying between hæmorrhage and a rupture or severe bruise of the bowel. Exploratory laparotomy was performed, A SUMMARY OF THE BLOOD CHANGES IN CASE 1 DURING THE PATIENT'S STAY IN HOSPITAL, WITH A DIFFERENTIAL COUNT OF THE WHITE CORPUSCLES NEARLY A YEAR AFTER THE OPERATION.

—	Jan. 11th.	Jan. 16th.	Jan. 20th.	Jan. 31st.	Feb. 6th.	Feb. 28th.	*Dec. 4th.*
Hæmoglobin	40 per cent.	45 per cent.	50 per cent.	52 per cent.	56 per cent.	69 per cent.	—
Red corpuscles	3,300,000	3,300,000	3,500,000	4,200,000	4,200,000	4,800,000	—
White corpuscles	29,000	26,000	21,000	18,000	19,000	10,000	*10,700*
Colour index	0·60	0·66	0·71	0·62	0·67	0·70	—
Polymorphs	79·0 per cent.	67·0 per cent.	71·0 per cent.	70·0 per cent.	65·0 per cent.	56·0 per cent.	*50·5 per cent.*
Eosinophiles	0·4 ,,	1·4 ,,	2·1 ,,	1·2 ,,	0·7 ,,	1·0 ,,	*4·0 ,,*
Lymphocytes	16·0 ,,	27·0 ,,	22·0 ,,	26·0 ,,	29·0 ,,	40·0 ,,	*57·0 ,,*
Myelocytes	1·2 ,,	1·0 ,,	0·5 ,,	0·3 ,,	0	0	*0*
Nucleated reds	2	10	0	0	0	0	*0*

an incision three inches long being made at the level of the umbilicus through the right rectus muscle, at the place where the rigidity was most marked and where the discolouration of the parietes existed. On opening the peritoneal cavity the omentum, infiltrated with blood, presented, and a large amount of dark blood with a few clots was evacuated. The incision was prolonged upwards to the right costal margin and the liver examined; it was found to be uninjured. The hand was at once passed across to the spleen which was felt to be extensively lacerated. A transverse incision across both recti muscles was then made, converting the former into a T-shaped incision. The spleen was readily brought up into the wound and the pedicle grasped by the fingers of the left hand. Around the hilum there was a large quantity of clot. The organ was freed from its peritoneal attachment, and a pedicle composed of the splenic vessels was formed and transfixed by three interlocking sutures, which were tied separately. Whilst the pedicle was being tied the respirations became hurried. The peritoneal cavity was washed out with sterilised salt solution, one and a half pints being left in it and one and a half pints being given intravenously during the operation. The wound was closed by interrupted silkworm-gut sutures passed through the whole thickness of the abdominal wall. The operation was well borne and six hours later the patient was quite comfortable. The pulse was 128 and irregular, three or four beats coming close together. A blood count was made; the red cells were 3,652,000, the whites 21,000, mostly polynuclear, and the hæmoglobin 63 per cent. The temperature was 100·8° F. On the 27th (the day after the operation) there was considerable abdominal distension but no rigidity. She had vomited frequently but only small amounts. The pulse at 6 P.M. was 154, of small volume and irregular, and the temperature was 101°. There was no restlessness. The bowels were well opened and on the 28th there was a marked improvement in the child's condition in every respect. From this time convalescence was uninterrupted and on Dec. 10th most of the stitches were removed, the wound having healed by primary union except at one place where the edges had not been sufficiently carefully approximated. She left the hospital quite well on Jan. 14th, 1904, having been kept in for purposes of observation. During the whole of this time repeated examinations of the lymphatic glands were made. On Nov. 27th a slightly enlarged gland above the left clavicle and on the 28th another in the axilla were found. They were never bigger than a pea. Later the glands in the right axilla and some in the posterior triangle of the right side were perceptible. These glands were never big and there was certainly none of the marked general enlargement of the lymphatic glands which has been noticed to follow the removal of the spleen in so many cases. There was never any tenderness in the long bones nor any enlargement of the thyroid.

A noticeable feature of the pulse was the manner in which two or three beats would come close together, and then for a time the beats would be quite regular. In the course of a few days this irregularity quite disappeared. The quantity of urine passed during the first 24 hours after the operation was 25 ounces, on the second day 25 ounces were passed, on the fourth day 46 ounces, and on the fifth day 36 ounces. During the next week the average daily amount exceeded 40 ounces. On two occasions the urea was estimated and was found to be 1·8 per cent. and 2·2 per cent. respectively. On Dec. 10th the patient had severe abdominal pain; this was probably due to intestinal disturbance secondary to a purgative. An enema resulted in a good motion and cessation of the pain. Severe griping abdominal pains have been noticed in several cases after removal of the spleen and are said to be due to the rapid enlargement of the mesenteric glands. With the exception of this attack the patient had not any abdominal pain and at no period could anything abnormal be felt in the abdomen. At the present time, more than three years after the accident, the patient is in perfect health.

Remarks by MR. LEGG.—Injuries of the spleen may be divided into two classes: (1) those without any external wound, and (2) those with an external wound accompanied by prolapse of the organ through it. The second group of cases will not be considered in the remarks which follow.

1. *The onset of the signs and symptoms.*—In the first case evidence of a serious intra-abdominal catastrophe was soon forthcoming. In the second more than 12 hours elapsed before there was evidence of anything seriously wrong. The hæmorrhage may have taken place slowly or have ceased for a time and then recurred, or the irritation of the peritoneum by the blood may have set up the severe symptoms. The fainting which the child suffered from soon after the accident was probably due to severe pain or shock. A similar delay[1] has been observed in many other cases. The actual amount of damage sustained by the organ has not a little to do with the rapidity of the onset of the signs. In our first case the spleen was pulped and in the second there were two fissures on the diaphragmatic aspect—one just below the middle line extending completely across the organ and the other a much shorter one nearer the upper pole at the anterior border. The splenic vessels[2] may be lacerated; when this occurs the hæmorrhage is likely to be very severe. Direct blows would appear to cause more frequently laceration, whilst a crush, as by a wagon, more often leads to pulping and disintegration.

2. *The nature of the injury.*—This varies from comparatively slight accidents, as a fall of a few feet, to a severe crush, such as being run over. Kicks and blows on the left side of the abdomen are not infrequent causes. There is frequently not any bruising or other signs of external violence, which emphasises the importance of putting all patients to bed after an abdominal injury has been sustained and carefully watching them, the pulse being taken regularly at not longer intervals than an hour.

3. *The site of the pain and the area of dulness.*—These are of so much importance in the diagnosis of abdominal injuries, and as the site of the operation is largely dependent on their position they are worthy of careful attention. In our first patient the child was in such profound shock as to be unable to feel pain and there was no area of dulness detected. In the second case the area of dulness, the most intense pain, and rigidity were to the right of the umbilicus. In many cases of ruptured spleen the greatest pain and tenderness have been found in the left hypochondriac and epigastric regions, with dulness in the same regions and in the left lumbar space. It is also to be remembered that there may be a very large amount of blood in the peritoneal cavity without any dulness being elicited on percussion, as in our first case.

4. *Methods of treatment.*—There are three methods of dealing with a ruptured spleen—(*a*) to suture the lacerations,

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[1] Ballance: Practitioner, vol. lx., 1898. Burrows: THE LANCET, Feb. 18th, 1905, p. 424. Savor: Centralblatt für Gynäkologie, 1898, No. 48.

[2] Heaton: Brit. Med. Jour., vol. ii., 1899.

(*b*) to remove the organ, or (*c*) to pack with gauze. Each method has been successfully used. As regards the use of sutures they are not often applicable for the following reasons. 1. The size, number, and situation of the lacerations. It would seem to be scarcely possible to unite together sufficiently accurately two nearly separate portions. From their situation it may be impossible to reach all the lacerations and the time occupied in uniting the torn surfaces would be very considerable. Moreover, these patients are not in a condition to stand a prolonged operation. 2. The hæmorrhage may be temporarily arrested but when the shock passed off it would be not unlikely to recur, the stitches not holding in the friable spleen or cutting out owing to the variations in size of the organ which normally occur.

Removal of the injured spleen is the best method of treatment in the majority of cases and is the surest way of permanently arresting the hæmorrhage which can be temporarily controlled by grasping the pedicle with the fingers or by forceps. Two or three interlocking ligatures may be required. The pedicle should be divided as far from the ligatures as possible, a portion of the spleen being left behind if necessary. At the moment of tying the pedicle, there may be a change in the pulse and respiration. The hæmorrhage may have ceased at the time the operation is being performed, either because the patient is very collapsed or there is a good deal of clot about the hilum, or the pedicle itself is being stretched in bringing the organ into view.

There does not seem to be anything to recommend packing with gauze, especially as removal of the organ has been shown to be quite compatible with perfect health.

5. *Effects of removal of the healthy spleen.*—These can be studied from the numerous cases which are now on record.

TABLE I.—SHOWING NUMBER OF CORPUSCLES, HÆMOGLOBIN, ETC.

—	1903.										
	Nov. 26th	Nov. 27th	Nov. 28th	Nov. 29th	Nov. 30th	Dec. 1st	Dec. 2nd	Dec. 3rd	Dec. 4th	Dec. 7th	Dec. 9th
Red corpuscles	3,652,000	3,700,000	3,080,000	2,900,000	2,824,000	3,140,000	3,720,000	3,800,000	3,750,000	3,900,000	3,960,000
Hæmoglobin	63%	68%	—	—	60%	63%	—	70%	72%	72%	75%
Colour index	0·86	0·9	—	—	1·06	1	—	0·9	0·96	0·94	0 94
Leucocytes	21,040	20,400	23,360	13,400	13,200	10 000	13,600	16,700	14,900	17,000	16,800

TABLE I. (*continued*).

—	1903.							After-history.			
								1905.			1906.
	Dec. 10th	Dec. 11th	Dec. 14th	Dec. 15th	Dec. 17th	Dec. 21st	Dec. 24th	March	April	October	Dec.
Red corpuscles	3,950,000	3,920,000	4,000,000	4,004,000	4,112,000	4,200,000	4,312,000	5,900,000	6,656,000	6,024,000	5,000,000
Hæmoglobin	75%	75%	78%	80%	80%	82%	84%	75%	86%	102%	100%
Colour index	0·94	0·94	0·97	1	0·96	0 94	—	0·63	0·64	0·64	1
Leucocytes	17,000	11,500	7,800	8,200	7,200	8,000	10,000	12,000	7,600	14,800	8,800

TABLE II.—SHOWING THE RESULT OF THE PERCENTAGE COUNTS OF THE LEUCOCYTES.

—	1903																After-history.			
																	1905.			1906.
	Nov. 26th	Nov. 27th	Nov. 28th	Nov. 29th	Nov. 30th	Dec. 1st	Dec. 2nd	Dec. 3rd	Dec. 4th*	Dec. 7th	Dec. 9th	Dec. 10th	Dec. 11th	Dec. 15th	Dec. 17th	Dec. 24th	Mar.	April	Oct.	Dec.
Polynuclears	91·25	90·25	81·2	70	72·25	65·25	68·5	53·5	58 25	64	74·25	61	55·5	45·25	50	38 4	48·25	44·2	58·75	54
Small lymphocytes ...	4·25	7·3	15·8	28·4	21·5	28	5·5	7·5	11 75	9·25	6	16·5	16·75	19·75	24	50·4	17	—	32	37
Large lymphocytes ...	3·25	1·25	0	0·3	0	0 5	9	24·75	23·25	19	10·5	8·5	8·25	29 5	21	8	7·5	—	3·75	6·25
Hyaline cells	1·25	1 2	3	0·8	5·5	5	14·25	10·25	3·75	5	7·75	11·5	16·5	2·75	1·75	1·6	25	—	1·25	1·5
Total mononuclears ...	8·75	9·75	18·8	29 5	27	33·5	28·75	42·5	47·5	33·25	24·25	36·5	42 5	52	46·75	60	49·75	54·2	37	44·75
Eosinophiles	0	0	0	0·5	0·75	1·25	2 75	4	3	2·75	1·5	2·5	3	2·75	3·25	1·6	2	1·6	3·75	1·25

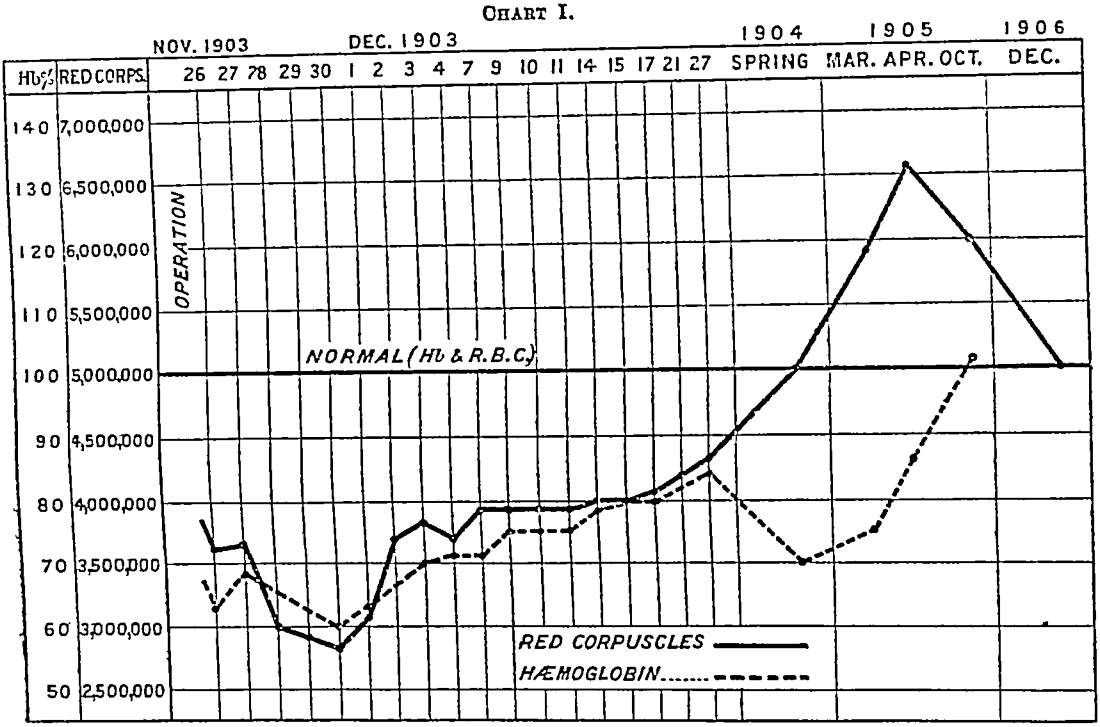
* Two myelocytes seen.

TABLE III.—SHOWING THE TOTAL NUMBERS OF THE DIFFERENT FORMS OF LEUCOCYTES.

—	1903.																After-history.			
																	1905.			1906.
	Nov. 26th	Nov. 27th	Nov. 28th	Nov. 29th	Nov. 30th	Dec. 1st	Dec. 2nd	Dec. 3rd	Dec. 4th	Dec. 7th	Dec. 9th	Dec. 10th	Dec. 11th	Dec. 15th	Dec. 17th	Dec. 24th	Mar.	April	Oct.	Dec.
Polynuclears	19199	18411	18968	9380	9537	6525	9247	8934	8679	10880	12474	10370	6382	3710	3600	3840	5790	3359	8795	4752
Small lymphocytes ...	894	1489	3690	3805	2838	2800	742	1252	1750	1572	1008	2806	1926	1622	1723	5040	2040	4119	4736	3256
Large lymphocytes ...	683	255	0	40	0	50	1215	4133	3464	3230	1764	1445	948	2419	1512	850	900		555	550
Hyalines ...	263	244	700	107	726	500	1925	1711	558	850	1302	1955	1897	225	126	160	3000		185	132
Eosinophiles	0	0	0	67	99	125	371	668	447	467	252	425	345	225	234	160	240	121	565	110

In many instances the patient has made an excellent immediate recovery from the operation and subsequently, after a varying interval of time, serious symptoms have developed. The patients may be divided into three classes: (1) those in whom convalescence and recovery is complete and rapid; (2) those in whom serious symptoms develop and persist for a time, being followed by a complete restoration to health; and (3) an intermediate group characterised by enlargement of the lymph glands, anæmia, some enlargement of the thyroid, and emaciation, a rapid recovery following. Age does not appear to have any determining influence as regards the onset of the symptoms. It would appear that in children recovery is generally rapid, as in these two patients.[3] In neither of them was an accessory spleen found, as has been sometimes observed. The symptoms which have followed the operation are: (1) rapid emaciation and weakness; (2) great thirst; (3) persistently rapid pulse; (4) intermittent elevation of temperature; (5) great anæmia; (6) drowsiness, peevishness, and irritability of temper; and (7) griping abdominal pain.[4]

CHART I.



Showing red corpuscles and hæmoglobin.

An Account of the Blood Changes in the Second Case,
by W. D'ESTE EMERY.

As it has been held that some theoretical questions of great importance might be solved by a careful examination of the blood after splenectomy, and as this did not seem to have been done in any reported case, we resolved to carry out a full series of researches in this case; it was extremely suitable for this purpose, since the patient was apparently quite healthy before the operation, the spleen removed at the operation was quite normal and the patient recovered without presenting any complications. In all 23 examinations of the blood have been made, 18 being within a month of the operation, one during the next year, three in the second, and one in the year after; the observations thus cover a period of three years, during the whole of which time the patient remained in perfect health and underwent the normal physiological growth of this period.

The counts were, with hardly an exception, made with the same apparatus and all were made by myself. The red corpuscles were counted with a Thoma-Zeiss hæmocytometer, special precautions being taken to ensure accuracy. For the hæmoglobin a Haldane's hæmoglobinometer was employed, the same apparatus being used throughout. The leucocytes were counted in the same preparation as the red corpuscles, using the field method and working with a field eight squares in diameter, as described in my "Clinical Bacteriology and Hæmatology."[5]

The differential counts were made in all cases on films stained by Jenner's stain and only perfect and well-stained films were used; in a few cases the results were checked with triacid stain. From 500 to 1000 leucocytes were counted and in some cases the counts were repeated and the results were compared. It was found that the correspondence was not always as close as could have been wished; this was due to the fact that the mononuclear cells (the lymphocytes and hyalines) showed an unusually great range of variability, so that the class to which a cell should belong was often uncertain. The results given in Table II. were obtained with considerable care and probably represent a close approximation to the truth. The results of the counts are given on Tables I., II., and III.

Red corpuscles and hæmoglobin (see Chart I.).—The first count was taken four hours after the operation and by this time the hæmorrhage had reduced the red corpuscles to 3,652,000 and the hæmoglobin to 63 per cent. The colour-index at this time was 0·86, but we are unable to suggest a reason why it should be below normal unless the patient was slightly chlorotic at the time of the accident. The second examination showed a rise, slight as regards the number of corpuscles but pronounced as regards the amount of hæmoglobin; this phenomenon is not uncommon after severe operations and is probably due partly to the restriction of fluids and partly to the defective circulation and consequent stagnation of blood in the capillaries. It has no relation to the absence of the spleen. The secondary fall beginning on the day after the operation and lasting until the fifth day (Nov. 30th) is also a normal phenomenon, and is due to the absorption of fluid to replace that lost by the hæmorrhage; the reduction is brought about simply by a dilution of the blood that remains. It will be seen that the lowest figures met with were 60 per cent. of hæmoglobin and

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[3] Ballance: Loc. cit. Haynes: Annals of Surgery, vol. xl., 1904.

[4] Heaton: loc. cit. Burrows: loc. cit. Ballance and Pitts: Transactions of the Clinical Society of London, vol. xxix., 1896. J. Rutherford Morison: THE LANCET, Jan. 7th, 1899, p. 27. Beaumont and Houseman: THE LANCET, Sept. 13th, 1902, p. 744. Bolton: Annals of Surgery, vol. xxxi., 1900.

[5] Lewis's Practical Series, 1906.

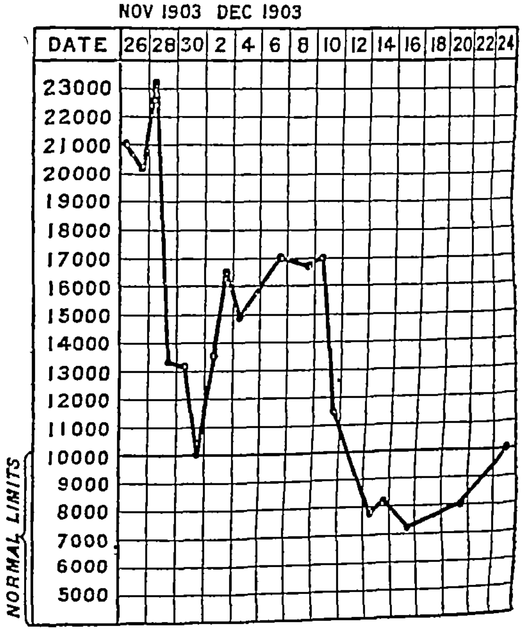
2,824,000 red corpuscles, indicating that some two-fifths of the total volume of the blood had been lost; this is a very considerable amount and one which may cause a severe strain on the organs of blood production, so that in a weakly person such a loss may be followed by anæmia of long duration. The process of regeneration appears to have commenced by the sixth day after the operation, which shows an increase of 3 per cent. of hæmoglobin and 300,000 red corpuscles over the preceding day. By the next day the increase was much more marked, the gain in red corpuscles during this period of 24 hours being 600,000, so that there was an increase of 900 000 during 48 hours. (It should be noted that the counts were made in nearly all cases at the same hour of the day.) From this point (the seventh day) there was a gradual and steady rise of both the corpuscles and the hæmoglobin, until the counts ceased on Dec. 24th, nearly a month after the operation. The red corpuscles were replaced slightly more rapidly than the hæmoglobin, so that the colour index was usually a little below normal; this is, of course, the normal process of regeneration. Lastly, a few normoblasts were found in the films during the second week—i.e., at the period of most rapid regeneration. It is interesting to note that a few myelocytes were seen at the same time, indicating great functional activity of the bone-marrow about this period. All these phenomena are quite normal and serve to indicate that the blood regeneration proceeds in an absolutely normal fashion after splenectomy. This appears to have been noted by the other surgeons who have performed the operation, to judge from the somewhat scanty data at our disposal. Thus in Pitts's and Ballance's[6] first case the regeneration was at the rate of 30,000 red corpuscles per day, in their second 20,000, and in their third 50,000. In another of Ballance's cases[7] the regeneration (taken from the date of operation to a month afterwards) was 45,000 per day, though, as in our case, the earlier stages were much more rapid. The loss of blood in these cases was not quite so great as in ours, the minimum being 3,333,333, 3,730,000, 3 590,000, and 3,280,000 respectively, whereas ours was 2,842,000. The hæmoglobin is not given in these cases except in Ballance's, but here it seems certain that some error must have crept in, since the figure never fell below 83 per cent. even when the red corpuscles were reduced to about 3,000,000. In Regnier's case, in which the hæmorrhage was very severe, the hæmoglobin fell to 20 per cent. and the red corpuscles to 2,500,000. The former reached 80 per cent. and the latter 4,700,000 in eight weeks —a formation of about 1 per cent. of hæmoglobin and 40,000 red corpuscles per diem.

The subsequent history of the case from the point of view of the red corpuscles is of some interest. An examination was made in the spring of the subsequent year (about four months after the operation) and there was found to be a slight grade of anæmia of the chlorotic type. The exact figures have unfortunately been mislaid, but the red corpuscles were approximately normal in numbers and the hæmoglobin reduced to about 70 per cent. A year after (in March, 1905, 16 months after the operation) the figures were: red corpuscles, 5,900,000 per cubic millimetre; hæmoglobin, 75 per cent., showing a decided increase in the number of red corpuscles, whereas the regeneration of the hæmoglobin had remained almost at a standstill, the amount being 10 per cent. less than a month after the operation. Considering that the onset of puberty probably took place at or about this time it is not at all improbable that this reduction (in which the colour index fell to 0·63) was of a genuine chlorotic nature.

In the following month (April, 1905, 17 months after the operation) the polycythæmia had increased to a remarkable extent, the red corpuscles numbering no fewer than 6,656 000 per cubic millimetre, the hæmoglobin being 86 per cent, and the colour index 0·64. The morphology of the corpuscles showed no deviation from the normal and there were no normoblasts or other abnormal corpuscles to be seen. We can suggest no explanation of these results, which do not appear to have been noticed previously in other cases. Six months subsequently to this the polycythæmia was still marked, though less than on the previous count. The red corpuscles were 6 000,000 and the hæmoglobin had by this time reached normal (102 per cent.), though the colour index was still low. It is obvious that these three counts happened luckily enough to have been taken at a time when some remarkable crisis occurred with regard to the formation of the red corpuscles and hæmoglobin, for in this period of seven months the hæmoglobin, which we may assume to have stood at about from 70 per cent. to 75 per cent. during the 16 months the patient had been out of the hospital, rose from 75 per cent. to 102 per cent., a gain of 27 per cent., whilst the corpuscles attained a maximum of 6,600,000 and then gradually sank. It is a little unfortunate that we have no counts immediately before and after this period. Our last count was made in December, 1906, almost exactly three years after the operation, and showed a perfectly normal condition of the blood so far as the red corpuscles and hæmoglobin were concerned: corpuscles, 5,000,000; hæmoglobin, 100 per cent. It is probable, therefore, that during the last 14 months the hæmoglobin had remained at its normal level, whilst the number of corpuscles had steadily sunk.

The leucocytes.—1. Total numbers (see Chart II.). The first count, immediately after the operation, showed a high leucocytosis which, as the differential count showed, was due entirely to an increase in the polynuclears. It remained nearly at the same level for two more days, the maximum of 23,000 being reached on the third day, about 50 hours after the operation. This leucocytosis was similar to that usually met with after severe injuries or extensive aseptic operations and does not present any point of interest. It rapidly diminished, and by the sixth day the numbers had regained a high normal level (10,000). At this period there was a secondary rise, lasting ten days (until Dec. 10th) followed by a rapid fall to normal (reached about the twelfth day) and attaining at its maximum a total height of 17,000 leucocytes per cubic millimetre. Subsequently to this the figures ranged between normal limits until the time when the examinations ceased on Dec. 24th, 1903 Our subsequent counts show that the total number of leucocytes was raised two years after the operation October, 1905), though on one occasion (April, 1905) a normal count was met with. The study of these total numbers is, however, of but little value in the absence of the differential counts.

CHART II.



Showing the total number of leucocytes.

2 Differential counts (see Table II., which deals with the percentage counts of the different varieties of leucocytes, and Table III and Chart III. which show their total numbers). The normal limits —The latter is the more instructive. The normal limits which are marked on the latter chart are, of course, only approximate, but may be taken as fair averages. The lymphocytes are considered as ranging between 1000 and 3500 per cubic millimetre, the polynuclears between 3000 and 7500. We will now consider each portion of the curve of the total leucocytes (Chart II.) in turn. (*a*) The initial rise, as has been noted above, is due entirely

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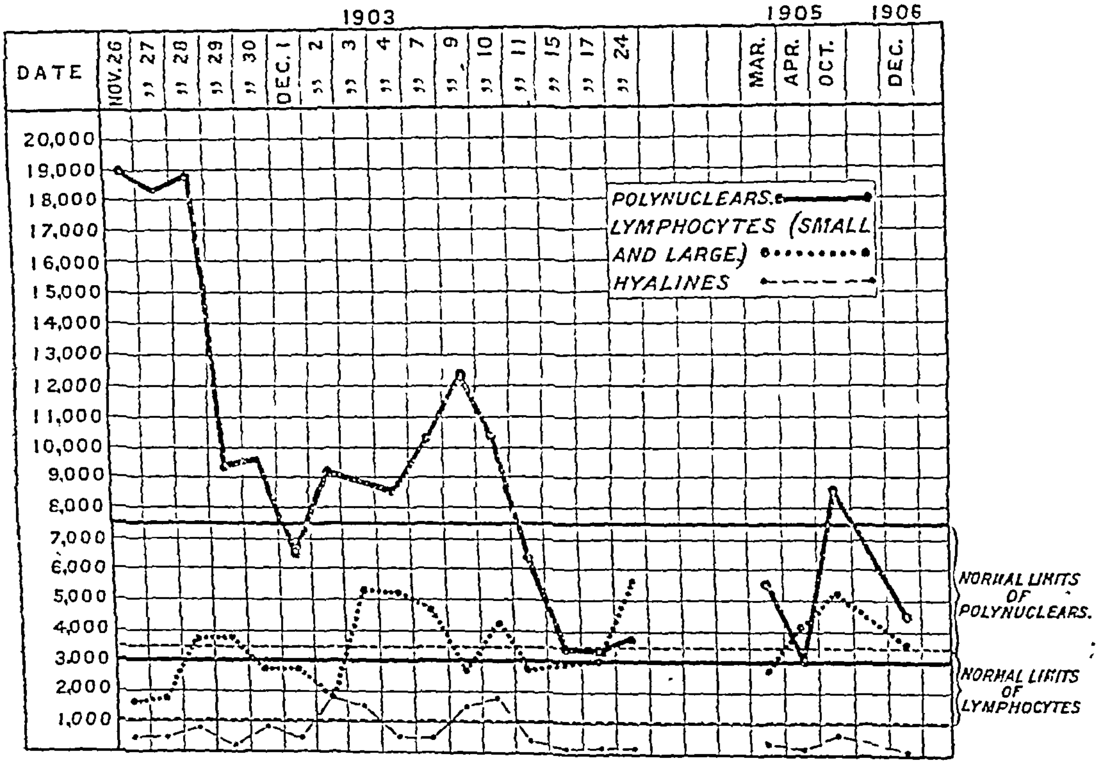
[6] Ballance and Pitts: Loc. cit.

[7] Loc. cit.

to a flood of polynuclears; the lymphocytes and hyaline corpuscles taken together formed as little as 8·75 per cent., but in spite of this the *total* lymphocytes did not fall below normal during this period. There were no eosinophiles at all to be found during this initial rise—a feature frequently met with in acute inflammations of whatever nature, and one which has no apparent connexion with the absence of the spleen. (*b*) The secondary rise, lasting from the fifth until about the tenth day, is of complex nature and is due mainly to an increase in the polynuclears, to a less extent to a lymphocytosis, and in some small degree to a reappearance of the eosinophile cells. In other words there was a mixed leucocytosis, such as is usually attributed to a stimulation of the functional activity of the whole of the blood-forming organs, especially perhaps of the bone marrow. There are several points to be noted which show beyond a doubt that there actually was a powerful stimulation of this tissue about this period. These are (1) the fact that this sudden rise of the leucocytes coincides almost exactly with the sharp rise in the red corpuscles and hæmoglobin; (2) that a few nucleated red corpuscles were present about this time; and (3) that myelocytes also occurred. But it would not be justifiable to assume that the whole of the changes are attributable to the bone marrow, for it was in the early portion of this period that the lymph glands were found to be enlarged and tender. The fall which terminated this second period of *leucocytosis was due almost* entirely to a diminution of the number of polynuclears. This is well shown on Chart III., where the fall is seen to commence on Dec. 9th and last until Dec. 15th, the range of numbers being between 12,474 and 3710—i.e., from a figure much above the normal upper limit to one just above the normal lower limit. We may fairly assume that the stimulation of the bone marrow ceased about Dec. 9th. During the subsequent period the lymphocytes were irregular, with perhaps a slightly downward tendency, but at the last examination of the first series (Dec. 24th) we find they had undergone a decided rise, reaching 5000 or 1500 above the normal level, at this date, the polynuclears remaining at a very low normal. It is unfortunate that the counts were not carried on for a few days longer, but the after history shows that in all probability there was actually a very decided total and relative lymphocytosis which commenced at this time and persisted for two years and perhaps for more. If we compare the total numbers of leucocytes on Dec. 1st and Dec. 24th we shall find the same (10,000) in each case, but these were very differently constituted:—

	Dec 1st.		Dec. 24th.
Total	*10,000*	......	*10,000*
Polynuclears, per cent. ...	65	......	38
" total	6,500	......	3,800
Lymphocytes, per cent. ...	28	......	58
" *total*	*2,800*	.....	*5,900*

CHART III.



Showing the total numbers of the various forms of leucocytes.

(*c*) In the counts made at an interval of more than a year after the operation we see figures quite comparable with those of Dec. 24th, with the exception that in two of the examinations there was a decided leucocytosis. In all but one of these there was a relative and absolute increase of the lymphocytes. The exception was in March, 1905, in which the lymphocytes reached 2900 (24·5 per cent.), and on this occasion there was an extraordinary number of hyaline cells (3000, or 25 per cent.) so that the exception is perhaps not a real one. At the last examination, more than three years after the operation, the blood, though normal in other respects, still shows a decided increase in the lymphocytes. These cells form 43·25 per cent. of a total count of 8800 per cubic millimetre. This is equivalent to 3800 per cubic millimetre, a figure slightly but decidedly in excess of the normal. The total number of the polynuclears is normal (4700), though their percentage is necessarily reduced (54 per cent.).

We may sum up these changes as follows. There was a marked polynuclear leucocytosis which fell to normal in about six days and then showed a recrudescence for some ten days, after which these leucocytes remained within normal limits. The lymphocytes, on the other hand, began to increase in numbers some seven days after the operation, and there has been a more or less marked lymphocytosis ever since.

The eosinophiles.—We have found no results which corroborate Ehrlich with regard to there being any eosinophilia after the operation. On the first three examinations these cells were absent. On the fourth day 0·5 per cent. were present, on the fifth 0·75, on the sixth 1·25, on the seventh 2·75, and on the eighth 4 per cent. After this the figures showed the variations usually met with in healthy persons. The normal totals are generally considered as ranging between 50 and 500 per cubic millimetre. In this patient the minimum (after the first three days) was 67 and the maximum 668; this was the only occasion on which the number 500 was exceeded, except in October, 1905, two years after the operation, when 555 were met with. We may fairly consider the counts as being quite normal in this respect and the absence of the eosinophiles during the first three days is, as has been pointed out above, not peculiar to cases of splenectomy.

The mononuclear cells.—We had hopes that a careful analysis of the mononuclear leucocytes, in the early period especially, might throw some light on the relations of these cells to one another and to this end we prepared a careful list of all the varieties of lymphocytes, hyaline cells, transitional cells, &c., met with. These were arranged under ten headings, the grouping being facilitated by careful micrometric measurements where necessary. The labour expended in the preparation of this table was very great and an inspection of our results led us to the opinion that no valid conclusion could be drawn from it, so that we have stated our results on ordinary lines and have not given this extended table. We found that there was no sort of sequence in the results which we obtained in this way, a form of leucocyte which occurred in large numbers in one day being entirely absent on the next.

An inspection of Tables II. and III. will show that the lowness of the total numbers of the lymphocytes which occurred immediately after the operation was due mainly to the scarceness of the small forms, of which there were less than 900 present, whereas the large lymphocytes and hyaline cells were in normal amount. For the next four days the small lymphocytes increased, reaching 3805, four times their initial number, whereas the large lymphocytes fell to 40 and the hyalines to 70. Then the reverse process occurred and the small lymphocytes showed a general downward tendency, though usually remaining within normal limits, whilst the larger forms, the large lymphocytes and the hyalines, showed a very decided rise. For example, on Dec. 3rd the small lymphocytes were 1200, a little above the normal minimum of 1000, whilst the large lymphocytes were 4100, about five times their normal maximum, and the hyalines 1700, their normal maximum being about 400. The predominance of large forms was a marked feature of this period, a period which, we may note, though without attempting to draw any inferences therefrom, roughly coincided with that showing signs of great stimulation of the bone marrow.

We noticed one cell which is rarely, if ever, seen in normal blood in films taken about this period. This was a very large cell, attaining nearly 20 μ, which in general appearance and staining reactions resembled large hyaline cells, but which had nuclei as contorted as those of polynuclear leucocytes. They occurred scantily and were counted as hyaline cells. They were entirely devoid of granules.

The last stage shows merely an increase of the small forms, the large lymphocytes and hyaline cells being normal (October, 1905, and December, 1906).

In our opinion it would be idle to attempt to draw any conclusions as to the site of origin of the mononuclear cells from these figures. We may, however, draw attention to the fact that in the first two counts after the injury the lymphocytes were decidedly low, though not below the lower normal limit (see Chart III.). At this period they commenced to rise and this rise was fairly parallel to the enlargement of the lymphatic glands, which was first noticed on Nov. 27th and had disappeared entirely by Dec. 7th. It is possible that this early rise is due to these glands taking on unusual activity and increasing their output of lymphocytes, the number of which is reduced owing to the absence of the spleen. It seems clear that this early rise (from 1570 on Nov. 27th to 3890 on Dec. 29th) is not due to any increased output from the bone marrow, since at this time the number of polynuclears was decreasing, suggesting that the stimulation of the tissue was diminishing. At the same time, we have seen reason to believe that what I have called the "secondary rise" in which the lymphocytes took part (from Dec. 1st to Dec. 11th, or thereabouts) was due to increased activity of the bone marrow. If any importance is to be attached to these observations they would go to prove the usually accepted view that the lymphocytes arise from all three structures—bone marrow, lymph glands, and spleen.

[In addition to the references given throughout this article see Simpson, Transactions of the Clinical Society of London, vol. xxxix., 1906, and Harrison and Eve, Brit. Med. Jour., vol. i., 1906, p. 321.]

A CONSIDERATION OF SOME SYMPTOMS WHICH MAY BE PRODUCED BY SEVENTH CERVICAL RIBS.

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AN accessory rib, or pair of ribs, springing from the seventh cervical vertebra, are developmental anomalies with which all are familiar, but I venture to think that the characteristic symptoms to which they sometimes give rise are by no means so widely recognised. In these circumstances it seems worth while recording 16 cases which I have been able to collect and which illustrate the condition. Though cervical ribs produce definite vascular symptoms I wish chiefly to draw attention to the result of pressure, by these accessory ribs, on the brachial plexus. The class of cases to which I am about to refer has been described before on several occasions. Lewis Jones,[1] so long ago as 1893 in a paper published in the St. Bartholomew's Hospital Reports of that year, recorded several instances of symmetrical atrophies affecting the hands and occurring in young people. He gave a full clinical account of these cases, and they correspond closely with my series. At that time he ascribed them to the result of a neuritis, and did not suspect a seventh cervical rib as a possible exciting cause. It was Thorburn[2] who really first brought prominently forward the association of hand atrophy, resulting from pressure on the brachial plexus, with a seventh cervical rib in a communication to the Royal Medical and Chirurgical Society, published in the Transactions for 1905. In his paper he gives a description of four cases which had been under his observation and treatment, in two of which subjective sensory symptoms predominated; in the other two muscular wasting and sensory loss were the chief features. More recently still Lewis Jones,[3] writing in the September number, 1906, of *Medical Electrology and Radiology*, refers again to his cases. He has been able to trace 14 of his original series of cases and has demonstrated the presence of seventh cervical ribs in ten of these.

The frequency with which cervical ribs occur is difficult to estimate but they are by no means uncommon; four or five cases have occurred within recent years in the dissecting-rooms of St. Bartholomew's Hospital. In the majority of cases (about 70 per cent.) there are bilateral ribs, though they are not as a rule equally developed on the two sides. Llewellyn Phillips,[4] late demonstrator of anatomy at St. Bartholomew's Hospital, in the Proceedings of the Anatomical Society for 1900, described two cases which he had fully dissected. In the first case, that of a man, besides the cervical ribs there were various slight developmental anomalies present in the bony skeleton. The cervical ribs were bilateral but not symmetrical; that on the right side was fully developed, resembling closely the first dorsal rib, and consisted of head, neck, tubercle, and body; it articulated posteriorly with the sixth and seventh cervical vertebræ and intervertebral disc, and anteriorly with a cartilage which was ossified, and which in turn articulated with a cartilage joining the manubrium sterni. The rib on the left side was shorter and narrower and reached neither the sternum nor the first dorsal rib. The upper surface of each rib was grooved by the lowest trunk of the brachial plexus, which passed over it. Both ribs were moveable within narrow limits.

The second case was that of a woman, but the ribs, though similar, were not so fully developed, that on the left side being quite rudimentary. It was only about one inch in length, yet its upper surface was also grooved by a root of the plexus; it was firmly fixed, thus differing from the other three. The ribs received considerable muscular attachments from an extra intercostal muscle and from the scaleni. Perhaps the most important point in connexion with these cases is that they illustrate the relationship which may exist between the brachial plexus and even a rudimentary cervical rib. In these circumstances an imperfectly developed rib, which can hardly extend beyond the transverse process of the first dorsal vertebra, may yet cause pressure effects on the brachial plexus. The relation of the plexus to these ribs has been further disclosed by findings at operations for their removal. In one of my cases in which the rib was removed by Mr. W. D. Harmer, the rib, a large one, was found to push the lower part of the plexus forward in front of it, but, without an undue amount of dissection, it was not possible to determine accurately what root or cord of the plexus was most involved. In another instance, however, Mr. L. B. Rawling[5] at operation found the cervical rib lying between, and exerting pressure on, the eighth cervical and first dorsal root, which united a short distance beyond the rib. At first sight it appears difficult to see how a first dorsal root can come into intimate relation with a seventh cervical rib, but the direction of the first dorsal root on its way to enter into the formation of the plexus must be remembered. It passes almost directly upwards over the neck of the first dorsal rib and so might come without any difficulty into direct relationship with a seventh cervical rib which was growing somewhat downwards and forwards. That this is probable is shown by examining the appearances seen in skiagrams and comparing them with the clinical findings; as a rule, those ribs which appear to grow directly outwards from the spine do not cause pressure symptoms so often as those which seem to grow downwards and with a slightly forward tendency. Further, it is noteworthy that the longer ribs seem to produce symptoms less often than the shorter, stumpy ones. It is possible that the first dorsal root may be damaged by a seventh cervical rib without actually lying constantly in relation to that rib. The first dorsal root lies on the superior aspect of the neck and body of the first rib and may be compressed in this position between this rib and a seventh cervical one, more especially during lateral movements of the head and neck. The shortness of the ribs which produce symptoms, and the fact that improvement has followed removal of the first dorsal rib both point to this as a possible explanation in some cases.

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[1] St. Bartholomew's Hospital Reports, 1893.

[2] Transactions of the Royal Medical and Chirurgical Society, 1905.

[3] Medical Electrology and Radiology.

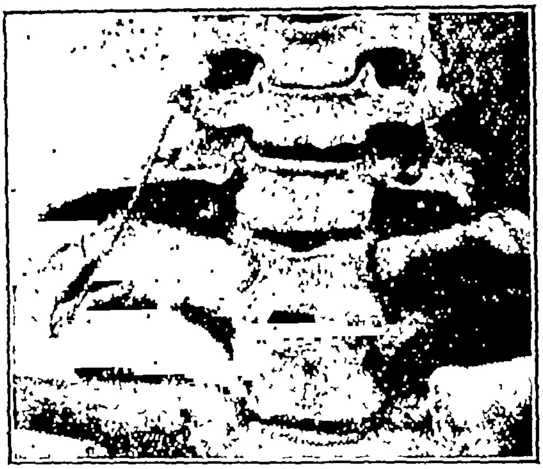
[4] Proceedings of the Anatomical Society of Great Britain and Ireland, 1900.

Gruber[6] classifies cervical ribs under four heads: (1) smallest type—rib does not project beyond transverse process, resembles articular end of a thoracic rib with head, neck, and tubercle, articulating with body and anterior aspect of transverse process of seventh cervical vertebra; (2) larger rib reaches a varying distance beyond transverse process, terminating in a free end or articulating with the osseous part of the first dorsal rib; (3) the rib may reach the first costal cartilage which it joins either by ligament or by direct contact; and (4) the rib is in all respects like a first dorsal rib articulating with the manubrium sterni.

I propose now to give a short description of my series of cases and subsequently to discuss certain points which arise in connexion with them.

CASE 1.—The patient, a female, aged 28 years, gave a history of pain affecting the radial border of the left wrist for the last two years. The hand was constantly cold and all symptoms were worse in cold weather. The left hand was weak and the patient constantly dropped anything she might be holding. She was in all respects normal except in the left forearm and hand. Flexion and extension of the wrist were weaker in the left than the right; flexion was most affected. The fingers were similarly weak. The grasp was weak, with some overaction of the extensors of the wrist and slight ulnar deviation. The muscles of the left hand were all much wasted, most markedly the thenar muscles and first and second interossei. As regards electrical reactions, in the extensors of the wrist and fingers there was some diminution to faradism; otherwise they were normal. The reaction of degeneration was present in the thenar, hypothenar, and first and second interossei, though there was no polar change; the third and fourth interossei appeared to be normal. Sensation: Subjective—as above. Objective—there was definite alteration in an area involving the ulnar border of the forearm corresponding to the first dorsal root distribution. Anæsthesia was moderate in degree with perhaps pain more affected than tactile sensation. The pupils were equal and the pulses at the wrist were equal. Nothing abnormal was felt in the neck. A skiagram showed well-marked bilateral seventh cervical ribs.

FIG. 1.



Reproduction of photograph of the cervical region of a female skeleton in the Royal College of Surgeons' Museum and reproduced by kind permission of the Council. The illustration shows bilateral but asymmetrical cervical ribs, that on the right side resembling a first thoracic rib in miniature, that on the left side being quite rudimentary and ankylosed. The photograph illustrates well how high the neck of the first rib is above the clavicle.

CASE 2.—The patient was a female, aged 21 years. There had been a history of pain for the last two years, which had been felt at first all over the right arm from the hand to the shoulder, and which later had settled along the ulnar border of the right forearm. A gradual onset of muscular weakness was noticed first when the patient attempted to cut wire with pliers. The muscles of the right hand were much wasted. This was most marked in the first dorsal interosseous and thenar eminence, the abductor, flexor brevis, and opponens pollicis suffering more than the adductors. The flexors of the wrist and fingers were affected in a slight degree. Electrical reactions in the forearm were normal. In the interossei there was marked diminution to faradic excitability; fairly brisk to galvanism (partial reaction of degeneration). In the thenar muscles there was well-marked reaction of degeneration; in the hypothenar partial reaction of degeneration. There was well-marked first dorsal anæsthesia. The pupils were equal, as were also the radial pulses. A skiagram showed bilateral cervical ribs.

CASE 3.—The patient was a male, aged 37 years, with a history of gradual and progressive weakness of the left forearm and hand extending over five years. There was an obvious swelling in the left supraclavicular fossa, with visible pulsation. The left forearm was markedly smaller than the right, with much flattening of the inner border, more marked atrophy of the hand muscles, and main-en-griffe. The grasp was very weak, with extension of the wrist, the flexors of the fingers and wrist having very little voluntary power. The aspect of the left arm resembled that seen in syringomyelia. The extensors of the wrist and fingers were affected also to a small extent. There was partial reaction of degeneration in the flexors (most) and the extensors of the wrist and fingers. No response was obtained in the hand muscles. There was no subjective painful sensation at all. There was marked sensory loss in the first dorsal and eighth cervical distribution. The pulses were unequal at the wrist, the right radial being almost double the left. The skin of the left hand and forearm was much cyanosed and the extremity was always very cold. A skiagram showed bilateral cervical ribs.

An operation was performed by Mr. Harmer on June 12th, 1906. A well-formed cervical rib was removed, about one and a quarter inches long, which did not articulate with the sternum or the first dorsal rib. It was seen that the lower cords of the brachial plexus were pushed forwards in front of the rib, and were under considerable pressure. The radial pulse improved immediately after operation. On June 27th the wound had healed by first intention and sensation was returning. On July 16th the anæsthesia was almost gone. It was noticed that the serratus magnus was very weak on the left side and showed partial reaction of degeneration. In December, 1906, the muscular power was much improved and the wasted muscles showed slight signs of filling out, the serratus magnus was greatly improved, while the electrical reactions were normal in the extensors, much improved in the flexors, but still absent in the hand. Sensation in the first dorsal area was normal. There was slight loss of sensation on the palmar and dorsal aspect of the terminal phalanges of the third and fourth fingers (remains of anæsthesia of the eighth cervical root).

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[5] Medical Electrology and Radiology, September, 1906.

[6] Gruber quoted by Fürnrohr, Die Röntgenstrahlen in Dienst der Neurologie, 1906.

CASE 4.—The patient was a female, aged 42 years. The history of the case showed that the condition had commenced 20 years previously when very severe pains in the right elbow and the inner side of the right arm were experienced, so severe that she had to give up work, which always caused an exacerbation, as also did cold. Soon after the pain was first noticed the muscles of the hand began to waste. Flexion and extension of the wrist were weaker on the right than on the left. Flexor spasm was noticed in the second, third, and fourth fingers, and extension of the distal phalanges in these fingers could not be performed voluntarily. There was no power in the interossei, the thenar and hypothenar groups being much wasted and very weak. Electrical reactions appeared to be little affected in the extensors and flexors of the wrist and fingers. There was reaction of degeneration in the thenar and hypothenar muscles and there was no response at all in the interossei. There was anæsthesia in the first dorsal and eight cervical distribution. The right radial pulse was less than the left. A skiagram revealed bilateral cervical ribs. The patient has thought lately that the left hand is getting weak, but there is no evidence of this.

CASE 5.—The patient was a boy, aged 13 years. Six weeks previously, after swimming for too long a time, he had felt pain in the right wrist which was followed by weakness in that hand so that he dropped things. On examination no very marked wasting in the right forearm and hand was made out, but the hand was very slightly in main-en-griffe position, and there was marked weakness in the intrinsic hand muscles and very slight weakness in the flexors of the wrist and fingers. There was reaction of degeneration with polar change in the thenar group and in the first and second interossei, and reaction of degeneration with no polar change in the third and fourth interossei and hypothenar muscles. The forearm muscles were normal and the pulses were equal. There was slight diminution of sensation to light stimuli in the first dorsal area and there was more marked diminution to painful sensations. A skiagram showed bilateral cervical ribs.

CASE 6.—The patient, a woman, aged 43 years, had experienced the feeling of "pins and needles" in the right hand for 18 months. There had been pain for the last two months extending from the elbow to the little finger of the right arm of an aching character which was described as feeling "right in the bone." The pain was worse after exertion, and in cold weather, and at night. At the same time as the pain the patient first noticed that the right hand was weak, she could not wring clothes and when scrubbing could not get the floors clean, and she had difficulty in holding the needle when sewing, and in picking up pins, and so on. More recently she had had spasmodic contractions in the first and fourth fingers. The movements of the right arm all seemed slightly weaker than those of the left, though all could be well performed and with fair strength. Pronation and supination were slightly weaker in the right arm than in the left. Extension of the wrist was slightly weak; flexion was more affected and was definitely weak. There was less power in extending the fingers of the right hand than of the left and very much less power in flexing them. The thenar muscles were wasted, opposition and abduction being lost. In the interossei there was some wasting and they were definitely weak. The hypothenar muscles appeared to be practically unaffected. The grasp of the hand was poor. Sensation: subjective—as above; objective—slight tactile anæsthesia in the first dorsal distribution of the right side, analgesia was more marked, also slightly in the eighth cervical. There was typical reaction of regeneration with polar change in the thenar muscles and flexors of the fingers and partial reaction of degeneration in the interossei. The hypothenar muscles were normal. A cervical rib was palpable in the neck on the right side. The pulses and pupils were equal. A skiagram showed bilateral cervical ribs.

This case was operated on by Mr. Rawling at St. Bartholomew's Hospital on Jan. 24th, 1906. The abnormal rib was removed as far back as the transverse process of the seventh cervical vertebra. The rib was crossed and grooved by two nerve roots, though it was impossible to define exactly which they were. The wound healed by first intention. After the operation for two days the patient had lost power in the deltoid, triceps, and biceps, but this has steadily improved and their power is now almost normal. There has been no further pain in the arm and on testing, the sensory loss has almost entirely disappeared. The patient states that the wasted muscles have filled out a little and this seems to be the case. The operation is too recent for anything like considerable improvement to have occurred.[1]

CASE 7.—The patient was a woman, aged 33 years, and the symptoms had commenced when she was 28 years of age, at which time she first noticed numbness, followed by pain, along the ulnar border of the right forearm. This was followed by gradually increasing weakness of the right forearm and hand. The symptoms were unilateral. There was slight wasting of the flexor group of muscles on the inner side of the forearm—the flexors of the wrist seemed normal but those of the fingers were weaker in the right than in the left hand. The thenar muscles, especially the abductor and flexor brevis pollicis, were much wasted, as was also the first dorsal interosseous muscle—the remaining interossei and the hypothenar muscles showed only slight change. The second, third, and fourth fingers were held slightly flexed. There was reaction of degeneration in the abductor and flexor brevis pollicis, with partial reaction of degeneration in the interossei and hypothenar group. The reactions in the flexors of the wrist and forearm were normal. There was slight analgesia in the first dorsal root distribution, where, however, a light touch was easily appreciated. The pupils were normal and the pulses were equal. A skiagram showed bilateral but asymmetrical ribs.

CASE 8.—The patient, a girl, aged 18 years, had experienced the first symptoms—"rheumatic pains" in the left arm when wearing a tight coat—ten years previously. Four years before coming for treatment the arm had been twisted in play, since which time she had always felt pain in it, which was very severe sometimes, burning in character, and causing her to drop anything she was holding. The pain was situated chiefly in the middle of the biceps and in the middle of the forearm. A year later the hand began to get weak and to waste. The symptoms were entirely unilateral. There was a tender spot in the left supra-clavicular fossa and a hard lump could be felt, and when this was pressed upon pain was felt in the places referred to. There was no objective sensory change. The movements of the upper left arm were good and the power was the same as in the right arm. There was some flattening along the ulnar border. The hand was slightly in main-en-griffe position and the third finger was markedly over extended. Extension of the wrist and fingers was very slightly affected; flexion was markedly weak, the third finger being much weakest in flexion. The patient could not strike a note on a piano with this finger. There was wasting of the thenar eminence, with marked weakness in abduction and opposition of the thumb. Wasting was also marked in the interossei with guttering of the palm and dorsum of the hand. The hypothenar muscles also were *wasted but not to the same extent.* There was diminished response to the faradic current in the extensors of the wrist and fingers. The galvanic response remained brisk. Reaction of degeneration was present in the remainder of the muscles mentioned. Pulses: the left was much smaller than the right. A skiagram showed *double cervical ribs,* that on the *right side being much longer than,* and running in a different direction from, that on the left.

CASE 9.—The patient, a woman, aged 32 years, gave a history of pains on the *outer side* of the right arm extending over a period of 12 years. She thought the symptoms followed an attack of influenza. After this the hand began to waste. She had *suffered from cramp* in the fingers of the hand for several years when making any strain upon them and for the last few months had complained of involuntary twitchings of the third finger of the right hand. The forearm was not *wasted,* but the thenar group of muscles were much atrophied and movements were very weak. The interossei and hypothenar muscles seemed to have escaped. The electrical reactions were normal except in the thenar muscles, which did not respond at all. Sensation was normal and the pulses were equal at the wrist. A skiagram showed bilateral and very large cervical ribs, also considerable scoliosis in the cervical and upper dorsal region of the spinal column.

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[1] The patient has now almost entirely recovered.

CASE 10.—The patient was a woman, aged 48 years, who gave a history of pains of long standing—she did not know exactly how long. She had had feelings of numbness and at times severe pain from the shoulder to the hand, both right and left, which were worse in winter and after exertion. The right thenar eminence alone was wasted and weak, all the other hand muscles seemed normal. There was reaction of degeneration in the wasted muscles, sensation was normal, and the pulses were equal at the wrist. A skiagram revealed bilateral cervical ribs.

CASE 11.—The patient, a woman, aged 54 years, gave a history of symptoms of long standing, the exact time being unknown. There had been tingling and numbness in the first and second fingers of the left hand, also slight flexor spasm in the third and fourth fingers, with abduction of the fourth finger. There was marked wasting of the interossei, but the thenar and hypothenar groups of muscles appeared to be normal. The muscular wasting was of recent origin, about one year. The was reaction of degeneration with polar change in the interossei and in the adductors of the thumb; all the other muscles reacted normally. There was slight diminution of sensation to light stimuli over the two outer fingers and thumb. The pulses were equal at the wrist. A skiagram showed bilateral cervical ribs.

CASE 12.—The patient was a girl, aged 11 years. The history of the case was that a year previously the patient had begun to complain of a dull aching pain, ill-defined in character and locality, in the left arm; shortly after this the thenar muscles of that hand began to waste and she had lost considerable power in the thumb. No other muscles were affected, but the thenar group showed marked wasting. There was reaction of degeneration in the affected muscles. Sensation was not abnormal and the pulses were equal. A skiagram showed bilateral cervical ribs, that on the left side being most prominent and the right rib being very rudimentary.

CASE 13.—The patient, a woman, aged 49 years, had had tingling sensations along the median nerve distribution in the right hand for two years. Loss of power in the thumb followed, associated with wasting of the abductor and flexor brevis pollicis and spasm in the adductors of the thumb. There was reaction of degeneration in the wasted muscles. The sensory changes were very slight diminution to tactile and painful stimuli in the distal phalanges of the thumb and the first and second fingers on the palmar and dorsal aspect. The pulses were equal at the wrist. A skiagram showed short bilateral cervical ribs.

On July 12th Mr. Sargent operated and removed the right cervical rib. It did not seem to be exerting any particular pressure on the cords of the plexus. No injury was done to the plexus at the time of the operation. On the 21st all movements in the arm were lost except slight flexion of the fingers. At the present time (January, 1907) the patient writes to say that the arm is still much weaker than before operation. She can almost get her arm straight above her head but she cannot get her hand behind her back. She can almost put her hand on the top and back of her head but she has very little power in it. The thumb has not got any stronger, but the wasting away seems to have stopped and the muscles have filled out, but only slightly.

CASE 14.—The patient, a woman, aged 29 years, gave a history of pain in the right thumb and radial border of the arm 18 months previously. The onset had been sudden. The pain was always made worse by exertion. Muscular wasting in the thenar group followed the pain, but no other hand muscles were affected. There was reaction of degeneration in the wasted muscles. The sensory changes were similar to those described in Case 13. A skiagram showed bilateral cervical ribs. The wasted muscles improved slightly after an operation in which the first dorsal rib was removed.

CASE 15.—The patient was a woman, aged 40 years, with a history of symptoms of six months' duration. There had been pain in the left shoulder and down the left arm, with "pins and needles" at times. It was worse when the arm hung down by the side or after exertion, especially after washing. A tender spot was felt in the supraclavicular region on the left side. The hands were said to feel weak, but no muscular wasting was noted and the electrical reactions were normal. There were no sensory changes. A skiagram showed short bilateral cervical ribs.

CASE 16.—The patient, a female, aged 27 years, gave a history of pain on the dorsal aspect of the right hand and a "tired feeling" along the inner side of the right forearm which had lasted for ten months. There was no muscular wasting, the electrical reactions were normal, and there were no sensory changes. A skiagram revealed bilateral cervical ribs.

In none of the above cases was any further change discovered in the nervous system than that described in the text. In no case were any sympathetic symptoms noted.

It will be seen from the above series that individual cases might be selected which differ widely from each other, and this fact might be used as an argument against the cervical rib as the common causative factor in all. I must admit that to some extent this is true, but it is only in the last two cases, where subjective sensations alone existed, that the diagnosis is really in doubt; and Thorburn, in his paper already referred to, has described cases very similar where operative procedure and removal of the cervical rib conclusively established the diagnosis by removing the pain. In the remaining cases the difference is only one of degree; I regard the first eight cases as typical examples of the fully developed symptom complex caused by pressure on the brachial plexus by the seventh cervical rib.

Before proceeding to analyse these cases it is necessary to establish the accuracy of the diagnosis. The only possible conditions which could produce similar symptoms, or symptoms at all comparable to those quoted, would be syringomyelia, anterior poliomyelitis acuta or chronica, peripheral neuritis, and the class of cases described by Farquhar Buzzard[8] as uniradicular palsies of the brachial plexus.

From syringomyelia the diagnosis is almost self evident. Ocular changes, common in this condition, are almost unknown in connexion with cervical ribs, nor are the reflexes in the latter condition abnormal. Sensory changes in the cervical rib cases are confined to the first dorsal or eighth cervical root distribution, though within these areas dissociative changes are to a certain extent met with. Scoliosis in the cervical region is occasionally met with but not to any great extent. Any sensory changes when present at once exclude either an infantile paralysis or progressive muscular atrophy. Further, the onset in infantile paralysis is usually distinctive, and, moreover, it is rare to find the hand muscles alone affected in this disease. From progressive muscular atrophy the diagnosis in the absence of sensory changes may be more difficult but the progress of the two cases is quite dissimilar. In progressive muscular atrophy both hands are affected sooner or later, whilst many of the rib cases remain strictly unilateral; nor are the reflexes ever increased in the latter condition. Further, the electrical reactions differ; whereas in progressive muscular atrophy the rule is for a simple diminution to the faradic and galvanic currents to exist, in the cervical rib cases one meets with reaction of degeneration in its most typical form. This only occurs in the former case when the disease is running a very rapid course, in which case the diagnosis could not long remain in doubt.

From peripheral neuritis, the root distribution of the muscular wasting and the sensory loss (when such is present) make diagnosis easy. With regard to Buzzard's cases of uniradicular palsies of the lower roots of the brachial plexus the diagnosis without an x ray examination is well-nigh impossible. The clinical picture in both cases closely corresponds, for both are due to a lesion which chiefly affects the first dorsal root. Of the two conditions I think that caused by a cervical rib is by far the commoner, for of the eight cases in which the muscular wasting and sensory loss corresponded to some of the cases described by Buzzard the skiagram showed the presence in all of definite cervical ribs. In two of these cases the ribs have been removed, with marked improvement resulting. This result of operative interference is, of course, the strongest link in the chain of evidence pointing to cervical ribs as the cause of the symptoms described. All operations have not been equally successful, it is true, but I think sufficient have been so to prove the point conclusively. Besides the two cases of my series which have been operated on with marked benefit and a third (Case 14) where improvement has been slight, the *following successful cases have been recorded:* Thorburn[9] two, Weber[10] two, and Seiffer[11] and Déjerine[12] one each.

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[8] Brain, 1902.

I think it is fair to conclude from the above evidence that a seventh cervical rib does give rise at times to certain well-defined *symptoms from pressure on the roots* of the brachial plexus, that in fully developed cases the diagnosis is easy and that a skiagram should, of course, be taken to confirm the diagnosis; lastly, that a number of cases also occur in which *minor degrees of muscular wasting and sensory changes* exist. Analysis of the cases collected brings out several interesting points.

Sex.—14 out of the 16 cases were in women and the reason for *this is by no means obvious;* there is nothing to show that a cervical rib is commoner in woman than in man, nor can laborious occupation be an exciting factor, or we should have expected to find the preponderance of cases in men. Possibly *certain arm movements* may bring the plexus more into direct relation with the rib, as, for instance, scrubbing floors, but the women in whom the condition has occurred are not all charwomen. Possibly the more thoracic type of respiration in women may exert some influence, but such influence must be slight indeed.

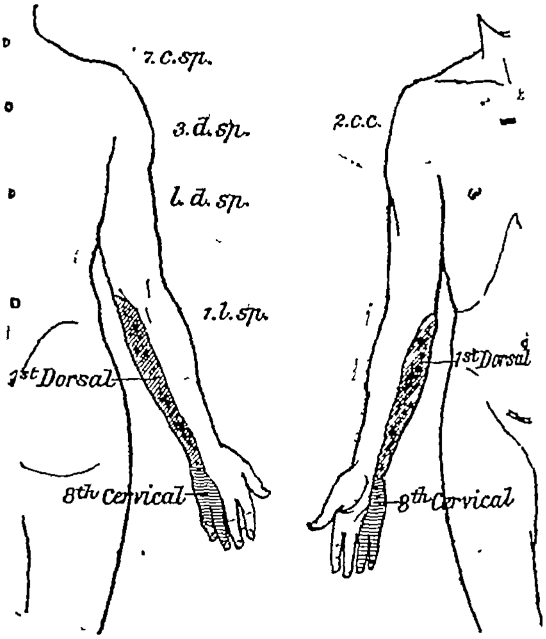
Age.—10 out of the 16 cases occurred in persons under the age of 30 years, the explanation of this no doubt being that *this period corresponds to the more active growth* and ossification of the ribs. In the cases occurring at a later age it is possible that the increasing rigidity of the accessory rib, perhaps going on to firm ankylosis, may be responsible for the production of symptoms, which the rib in a more moveable condition had failed to produce.

Sensory changes.—Both subjective and objective sensory disturbances are met with, the former being almost invariably present, while the latter were noted in nine of the cases. Pain is the predominant feature of the subjective changes and is specially influenced by exertion, in which the arms are involved, and by cold. *The patients always complain* more in winter than in summer. The pain may be severe—in one case it was so pronounced that the patient had to give up work; it is variously described as "sharp rheumatic pain," a "dull aching in the bone," "burning pain," and so on. Numbness and tingling were pronounced in two cases. The situation to which the pain is referred has varied, but is usually stated to extend from the shoulder to the hand on the affected side, being specially noticeable at the elbow and along the ulnar side of the forearm.

Objective changes.—The typical thing is undoubtedly loss in the distribution of the eighth cervical and first dorsal root *(vide diagram), the latter being the most affected, and sometimes* existing alone; I have never found a case where the eighth cervical loss was present alone; as a rule one finds slight dissociation phenomena, the tactile loss being less pronounced than the analgesia. This was also a feature of Buzzard's cases and indicates a root lesion, as Sherrington first pointed out. Déjerine[13] has recorded a case in which a cervical rib was accompanied by paræsthesia and definite sensory loss in the fifth and sixth cervical distribution. The rib was removed and the sensory disturbances cleared up subsequently to the operation. In three cases there was very slight tactile diminution found over the thumb and first and second fingers, the change being most marked, but never profound, over the dorsal and palmar aspect of the distal phalanges. In two cases the changes were purely subjective and unaccompanied by any muscular weakness or wasting, and the electrical reactions of the hand muscles were normal.

Motor system.—Muscular wasting and weakness are in most of the cases chiefly noticeable in the intrinsic hand muscles, but in the more severe cases the flexors of the wrist and fingers may be considerably affected—the fingers, as a rule, more severely than the wrist muscles. The grasp is weak with extension of the wrist and the hand at rest in the pronounced cases assumes the main-en-griffe position. Wasting and muscular disability are usually most marked in the thenar muscles, and of these the abductor and flexor brevis seem to suffer most; in some cases these are the only muscles affected to any considerable extent. The interossei and hypothenar muscles suffer to a less extent. There may be some degree of spasm in the flexors of the third and fourth fingers in cases where the muscular paralysis is not far advanced. Thorburn noted this point in his cases. There is sometimes abduction of the little finger. Even in cases of long standing the electrical testing of the affected muscles showed the presence of reaction of degeneration in its typical form, though where the muscular wasting was excessive the electrical response to galvanism, as well as faradism, could not be obtained. In all the recent cases reaction of degeneration was present. The motor and sensory changes thus point to a lesion which, in the majority of cases, involves chiefly the first dorsal root, with less interference with the eighth cervical root, which indeed may entirely escape.

FIG. 2.



The shaded areas represent the distribution of the sensory loss met with in complete cases of cervical ribs. Analgesia is as a rule more pronounced than tactile anæsthesia in these areas.

Other phenomena which have been attributed to cervical ribs.—Sympathetic nerve: In none of the cases here recorded was there any affection whatever of the cervical sympathetic, but Fürnrohr[14] records an instance of sympathetic *eye symptoms* associated with a cervical rib. The patient, a young girl, had complained for about six months of widening of the palpebral fissure and proptosis of the right eye; the right pupil was noticed to be wider than the left, the thyroid gland was slightly enlarged, and the right carotid pulsated more violently than the left. A radiogram showed a rib growing from the sixth cervical vertebra. *It is not stated whether the rib was removed, with the subsequent* cure of the symptoms.

Scoliosis.—According to Fürnrohr,[15] Garré[16] first drew attention to this symptom as a possible complication of cervical ribs. There is, he says, a displacement of the scapula on the same side as the cervical rib upwards and outwards and a deviation of the vertebral column, with the convex curve *towards* the accessory rib, in the cervical region, whilst a compensatory curve in the opposite direction is met with in the lower dorsal vertebræ. This scoliosis *is by no* means a constant feature and by many is regarded as accidental so far as the rib is concerned. Though only markedly present in one of my cases (Case 9) it occurred to a less extent in two others (Cases 1 and 4).

Syringomyelia.—This has been described by Oppenheim and others as occurring in cases where the radiogram has shown the presence of cervical ribs (the ribs being regarded as part of a widespread developmental anomaly). I do not know if any evidence exists to show that cervical ribs are more common in patients with syringomyelia than in others.

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[9] Transactions of the Royal Medical and Chirurgical Society, 1905.
[10] Münchener Medicinische Wochenschrift, 1905, No 33.
[11] Monatschrift für Psychiatrie und Neurologie, 1904, Heft 4.
[12] Neurologisches Centralblatt, 1903, No.
[13] Ibid.
[14] *Die Röntgenstrahlen in Dienst der Neurologie.*
[15] Ibid.
[16] *Zeitschrift für Orthopädische Chirurgie,* Band II., No. 1.

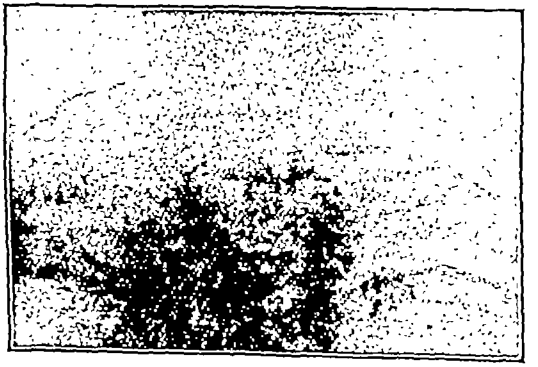
It is quite possible that the simultaneous occurrence of the two conditions may have been simply accidental.

A word as to radiograms and their interpretation in cases where a rib is suspected. The photograph is best taken with the patient in the dorsal decubitus and the plate behind the neck. With a "low" osmium tube of about 5-inch spark gap and a 10-inch coil I think an exposure of from one and a half to two minutes has given the best results. It is sometimes difficult to say whether a definite cervical rib or a rather abnormally developed tranverse process of the seventh cervical vertebra is present. I have photographed a skeleton where these transverse processes are particularly well developed, but in the radiogram they do not nearly reach in lateral extent the extremity of the transverse process of the first dorsal vertebra. I think that a transverse process or rudimentary rib, which extends beyond the first dorsal transverse process, should be regarded as a potential factor for the production of pressure symptoms. Phillips's dissection, already quoted, supports this view.

As a result of a number of radiograms of the neck taken at the National Hospital one has noted that in the first place cervical ribs may be present and produce no symptoms, and secondly, that though nearly all the cases of cervical ribs are bilateral—in the greater number the symptoms are unilateral. The explanation of this, I feel sure, entirely depends on the direction of growth taken by the rib. Those ribs which grow straight out from the spinal column or incline a little backwards (and therefore show most conspicuously in radiograms) are little liable to produce pressure symptoms. Whilst the rib which seems to grow forwards, or forwards and downwards, is almost invariably associated with some injury of the plexus.

The treatment of the various conditions produced by cervical ribs may be divided broadly into (1) palliative and (2) radical.

FIG. 3.



Bilateral and symmetrical cervical ribs (Case 4).

Palliative treatment.—This consists in rest to the arm as much as possible, the use of blisters as counter-irritants if subjective sensory phenomena are conspicuous, or the use of the constant current over the painful areas. The anode should be used as the active electrode and a current of 8 to 10 milliampères employed. In some cases this will suffice to remove the greater part of the pain, aided perhaps by the use of a liniment composed of mesotan and olive oil, in equal proportions, care being necessary to prevent irritation of the skin by this method. For the muscular condition much can be done in the slight cases by massage and the use of electricity, using a combined faradic and galvanic current sufficiently strong to produce a medium contraction in the affected muscles. Under this treatment some of the cases will show a decided improvement, but more probably will not. In some cases the painful sensations cease of themselves and the muscular wasting becomes arrested, leaving a hand that is still useful though not normal, the thumb movements being most restricted.

Radical treatment.—The question of operative interference is raised when the pain is extremely severe or when muscular wasting has advanced to such an extent as to interfere considerably with the utility of the hand, but in my opinion palliative treatment should always first be given a trial. In the slighter cases I do not think that operative interference is to be recommended as it is not attended by universally satisfactory results. When undertaken it is most important that it should be complete, by which I mean that the periosteum should be removed with the rib. The necessity for this is shown by a case which Weber has recorded, where a subperiosteal excision was first performed with temporary relief of pain, but new bone was formed and the symptoms recurred to be ultimately cured by a complete removal. Unsatisfactory results sometimes occur. I have seen two cases, and another is recorded by Fürnrohr,[17] where a more or less complete paralysis of the whole arm (especially affecting the deltoid) occurred after the operation, and this, too, without any obvious injury being done to the plexus at the time. One of these cases proved most intractable, but the other two cleared up almost completely within two months. The brachial plexus seems to resent any such handling or stretching, as is almost unavoidable during the operation. In another case a paralysis with reaction of degeneration resulted in the serratus magnus and though this ultimately improved very much the muscle has not yet, seven months after the operation, completely recovered. When one remembers the course of the posterior thoracic nerve it is not difficult to realise how easily it might be injured in the manipulations necessary for the removal of a seventh cervical rib. An important point for the surgeon to bear in mind is that the cervical rib lies much higher in the neck than is usually expected. The first dorsal rib has in several instances been mistaken for a seventh cervical rib and at times has been removed in error—a mistake which may be easily made when one recollects that the latter may articulate with the sternum, has muscular attachments from the scalene and intercostal muscles, and in some cases is crossed by an abnormally high subclavian artery.

Mr. Rawling, who very kindly operated on one of my cases, has expressed himself to me on the subject as follows. He bases his remarks on two cases on which he has operated himself and on two others which were operated on at St. Bartholomew's Hospital. 1. The ribs in all these cases have been short, projecting only from 1 to 2 inches beyond the tip of the transverse process. The ribs were directed outwards for a short distance and there turned markedly downwards and forwards. 2. The upper aspect of the rib is definitely grooved by a nerve trunk, though it is not always possible without testing electrically to identify which trunk is present. 3. Complete removal is usually a matter of very great difficulty, due to the small area of operative field and the numerous muscular attachments which the rib receives. In removing these many small, but troublesome, vessels are divided. 4. The rib is by no means easy to find. It seems to lie in such a manner that its tip is embedded in the substance of the scalenus medius and posticus muscles. It also lies at a very much higher plane than is usually anticipated, the very great obliquity of the first rib being forgotten.

In conclusion I wish to express my best thanks to those members of the staff of the National Hospital who have most kindly allowed me to make use of their cases.

Queen Anne-street, W.

A CASE OF ACUTE LEUKÆMIA (LYMPHOCYTHÆMIA).

BY HAROLD H. E. SCATLIFF, M.A. OXON., M.R.C.S. ENG.,
ASSISTANT SURGEON TO THE BRIGHTON THROAT AND EAR HOSPITAL;
AND
EDMUND HOBHOUSE, M.D. OXON.,
PHYSICIAN TO THE SUSSEX COUNTY HOSPITAL.
With Pathological Notes by F. G. BUSHNELL, M.D. Lond.,
Pathologist to the Sussex County Hospital.

THE patient, a man, aged 20½ years, an Englishman, though resident in Morocco for a good part of his life, was first seen on Jan. 2nd of this year. He complained of a swelling on his leg of three days' duration. There was a large hæmatoma of the size of an egg, fluctuating in the centre, and situated over the internal saphenous vein of the right leg; the inguinal glands were enlarged and tender, and the temperature was 101° F.; there was no thrombosis in the vein above or below. There was no history of local trauma, the lump having appeared spontaneously, but three weeks or a month before this the patient had burnt the dorsum of the foot on that side and thought he had poisoned the wound with a coloured sock, as the burn did not completely heal till about a week before he was seen on Jan. 2nd. The swelling was opened by Mr. A. H. Buck under a general anæsthetic and sanious pus was evacuated; at the same time it was noted that there were several small subcutaneous hæmorrhages or bruises on the toes. The temperature went down for a day or two and the swelling of the inguinal glands disappeared, but the wound, though clean, showed no tendency to heal as it should. The patient at the time felt very well. On Jan. 12th his temperature rose to 101° again and there was offensive and frequent diarrhœa. A dose of oleum ricini was given and subsequent treatment with no improvement. As the symptoms on the 12th resembled those of septic poisoning Dr. Hobhouse was asked to see the patient. Meanwhile the sputum had been tested and a Widal examination had been made, but both with a negative result. Dr. Hobhouse suggested a blood examination for septic organisms. The patient was taking medicinally at the time salicylate of bismuth and quinine, and as regards his general condition he had a daily septic temperature, no headache, slight enlargement of the spleen, hæmic murmurs over the base of the heart, and spongy gums. The diarrhœa stopped on the 16th, but the cervical glands were enlarged and tender on both sides.

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[17] Die Röntgenstrahlen in Deinst der Neurologie.

Dr. Bushnell sent the following report from his blood examination: "Mr. H. Scatliff asked me to undertake a bacteriological examination of the blood. Ten cubic centimetres were sown in 250 cubic centimetres of bouillon on serum and agar. In 24 hours, at 37° C., a distinct turbidity was noticed in the broth and was found to be due to bodies resembling micrococci in appearance, size, and staining reactions. At the time these were thought to be staphylococci, but in the absence of growth in subculture on this and on several subsequent occasions in bouillon and blood cultures they may be regarded as artefacts from the presence of particles of (?) proteid nature (doubtless such forms would be instanced as evidences of spontaneous evolution of life by some observers). Blood-films showed a marked lymphocytosis."

As the blood from the last note of Dr. Bushnell appeared to be that of a patient suffering from leukæmia as well, he made a further blood count, quantitative and qualitative, as follows:—

"Blood examination showed—hæmoglobin, 40 per cent.; red cells, 2,240,000 per cubic millimetre; and leucocytes, 64,300 per cubic millimetre.

Differential Count of Leucocytes.

—	Per cent.	Absolute number.	
		Patient.	Normal.
Polymorphonuclear...	18·5	11,895	6500
Eosinophiles	2·3	1,478	300
Small lymphocytes	20·8	13,374	2500
Large „	50·8	32,664	
Transitional cells	6·0	3,858	—
Myelocytes	0·5	321	—
Hyaline cells	0·5	321	600
Mast „	—	—	100

Remarks.—There is severe anæmia with colour index approaching normal (0·9) and a tenfold leucocytosis with 18 times the number of lymphocytes normally present and twice the number of polynuclears. The polynuclears are practically non-granular with Leishman's stain and a large number of the lymphocytes have a few neutrophilic granules and are vacuolated. The blood is characterised by the absence of the differentiations present in the leucocytes of the elaborated normal blood. In the apparently purposeless proliferation of these cells and in the fatal cachexia ensuing we have evidence of a malignant new growth of the blood cells of the nature of a sarcomatosis. The cachexia would appear to be due to misappropriation of nourishment by these leucocytes. As has been pointed out before by me,[1] and as is exemplified here, we have connecting links between simple growths and malignant neoplasms and between leukæmic, lymphadenomatous, and sarcomatous affections (i.e., blood diseases and malignant growths). The greatest interest lies in treatment and in the importance of elucidating the nature of recoveries in man and lower animals (mice) from spontaneous or experimentally produced malignant neoplasms."

It was now apparent that the original hæmatoma was only a symptom of the disease, that is a manifestation of the multiple hæmorrhages which followed so rapidly. The patient at this time was very cheerful, with a daily temperature of 101° F. in the morning and between 99° and 100° in the evening (see chart). Eight weeks before this date he had played hockey for his college, feeling, however, greatly done up after each game. The subsequent history is shortly as follows.

On Jan. 27th epistaxis started but was easily controlled. The cervical glands alone were enlarged. There was a continuous evening temperature. The leg wound started healing. There was no albumin in the urine. The patient was in the fresh air as much as possible, being fed up and taking iron and arsenic, the latter in increasing doses, and pills of calcium chloride.

On Feb. 3rd there was epistaxis as a rule every other day, not from any bleeding spot, but capillary oozing from the mucous membrane, both on the septum and turbinals; it was easily controlled by a strip of gauze in the anterior nares for half an hour. The cervical glands were less enlarged and the temperature was rather lower each day, but always above 99°. The gums were very spongy and bled readily. The spleen was two and a half fingers' breadth beyond the costal margin. About this time a short trial of the x rays was made but was discontinued. Towards the end of February the epistaxis was more frequent; there was a large submucous hæmorrhage on the soft palate. The mucous membranes were now very anæmic and the skin was sallow. There was dyspnœa on the least exertion and albumin was present in the urine.

On March 1st the patient had an attack of enteritis lasting for a day or two but improving under treatment; this returned, however, on the 7th with the passage of a small quantity of blood and lasted till his death. The blood was more or less bright and the motions were offensive. Epistaxis was present during a part of each day. Some enlargement of the liver was noticed now. There was no pleural effusion and the optic discs were clear. On the 9th Dr. Hobhouse again saw the patient. β naphthol was suggested and oxygen, and owing to a request from his medical attendant in Morocco atoxyl was given in small doses subcutaneously. On the 11th œdema of the feet and ankles was present with small petechiæ scattered over the legs. The gums were bleeding continuously and the epistaxis and melæna continued. On the 12th the patient was in the same condition. One of the incisor teeth fell out and others were loose. The breath was very foul and he was drowsy. On the 13th and 14th there were continuous dyspnœa and cardiac dilatation. On the 15th the patient died during sleep.

Remarks by Dr. HOBHOUSE.—Acute lymphocythæmia is comparatively a rare disease. Out of 17,000 medical admissions at the Johns Hopkins Hospital, McCrae found that there were 13 of lymphatic leukæmia, of which five only were acute. Its genesis and many of the attendant conditions are obscure, so that it is desirable to record every case of the disease so far as it is known. The preceding case, which I twice had the pleasure of seeing with Mr. Scatliff, was in many ways a typical one and presents several features of interest. When I first saw the patient his condition in some respects suggested typhoid fever, in others an acute septic infection, but there was none of the depression usually associated with either. The patient felt well, did not look very ill, and thought he ought to be up, though his temperature was nearly 103° F. The condition of the gums resembled scurvy, as they were swollen and bleeding. His colour at that time did not suggest any blood dyscrasia, but this may have been partly due to the fact that he was seen by artificial light, as his friends say that they noticed some pallor in October. At my next visit (March 9th) the sallow hue was a very marked feature, closely resembling that of pernicious anæmia. The blood picture was fairly typical of what is usually found in the disease, but the number of polymorphonuclears was

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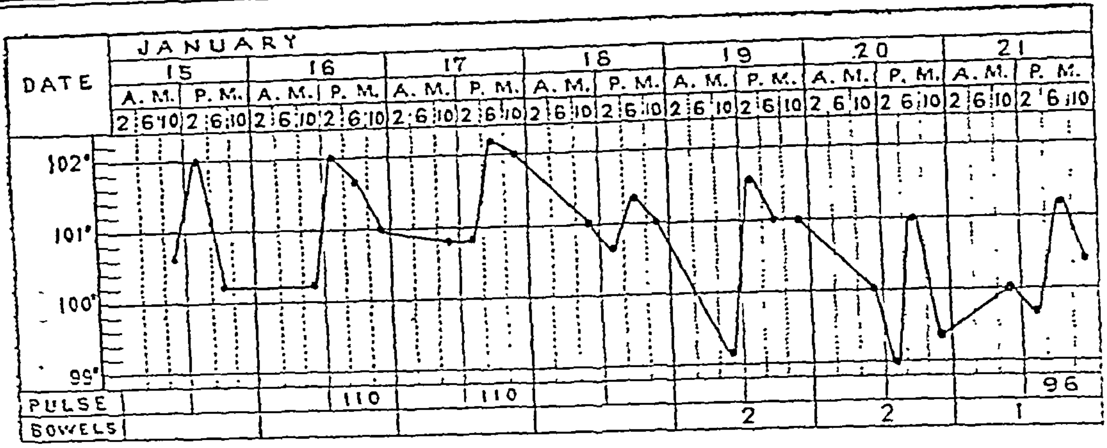
[1] Cf. F. G. Bushnell: Structural Continuity in New Growths, Brit. Med. Jour., Dec. 1st, 1906; A Case of Generalised Sarcoma with Blood Changes (containing references on the subject), Transactions of the Pathological Society of Great Britain and Ireland. J. E. Farmer, J. E. S. Moore, and C. E. Walker: The Behaviour of Leucocytes in Malignant Growths, Transactions of the Pathological Society of London, 1905.



larger than is usually found when the disease is acute—viz., 18·0 per cent. Many of the large lymphocytes were granular and myelocytes were practically absent. Apart from the blood count, the hectic temperature, the hæmorrhage from the mucous membranes, the purpuric eruption (which may be general or local and is often the earliest symptom), and the moderate enlargement of the spleen and of the lymphatic glands constituted a striking clinical picture which once seen can hardly be missed. It may suggest in turn several diseases—typhoid fever, scurvy, purpura, and acute septicæmia—but is consistent with *none of them*. A blood examination even of the most superficial character will reveal the nature of the disease. It is only one more proof of the desirability of a blood examination in all doubtful cases. The age of the patient is also suggestive. As to the ultimate nature of the disease, whether it is due to an infection or whether it is really a lympho-sarcomatosis of the blood, we are at present in the dark; the evidence is fairly equally divided.

Two remarks may be made in conclusion. 1. That whatever explanation is offered it must be one which will embrace all forms of leukæmia, for every kind of transitional stage between the spleno-medullary and lymphatic forms is met with and they cannot be taken apart. 2. The parasitic theory is the only one which in the present state of our knowledge offers us any hope as regards treatment—viz., on vaccine lines—but it must not be forgotten, if organisms are found, that they may be only a terminal infection indicative of the special vulnerability of the tissues.

A DANGEROUS DRY SHAMPOO.

By HORACE C. COLMAN, M.D. EDIN.

With Additional Remarks by C. R. MARSHALL, M.A., M.D. Vict., *Professor of Materia Medica in the University of St. Andrews.*

A LADY was attended recently at her own house by a hairdresser for the purpose of cutting and dry shampooing her hair. The operation took place in a moderate sized bathroom with the window slightly open; the room was probably rather warm. After the cutting process was finished the lady placed her head over the basin in the usual fashion and the operator proceeded to pour some liquid over her head. At once she cried out that it was far too strong, and the man replied that it would soon pass off. Her next recollection is that of finding herself propped up on the floor, a wet towel round her head, the window wide open, and a very frightened hairdresser fanning her vigorously with a towel. She was informed that she had been unconscious for five minutes and had been a very nasty colour. Assistance was obtained and she was put to bed, where I saw her shortly after. She had vomited severely before my arrival and she told me that she felt just as she did after taking chloroform and her appearance tallied exactly with her description of her feelings. Her colour was bad and her pulse was somewhat accelerated; she had a severe headache and complained greatly of nausea. During the night she vomited once more, but in a day or two she was all right again and in her usual good health.

The hairdresser told her that the liquid used was tetrachloride of carbon and that he had used it eight times that week. On making inquiries of the man's employer I found that the drug is in frequent use for dry shampooing and that it came into use after a fatality with petrol in a barber's shop in London. I further found that in a shop it was the custom to use a form of apparatus to keep the vapour away from the customer's face, but that the "trade" seemed quite unaware of the dangerous nature of the liquid which appears to be in frequent use. The hairdresser gave me a bottle of the liquid as supplied to him and this Professor C. R. Marshall kindly undertook to examine. It is only necessary to read Professor Marshall's remarks, which he has allowed me to publish, to feel assured that what, happily, was only an extremely unpleasant experience for the lady might easily have ended in her death and that hairdressers will be well advised to seek some liquid less dangerous to use.

Remarks by Professor MARSHALL.—The liquid given me by Dr. Colman smelled strongly of commercial carbon disulphide, but on submitting it to fractional distillation it was found to consist of carbon tetrachloride, containing a trace of the impurities usually present in carbon disulphide and which give to it its unpleasant odour. No carbon disulphide itself was present in the liquid but some mixed perfume in alcohol had been added.

The symptoms described by Dr. Colman were certainly due to the inhalation of carbon tetrachloride. This substance was investigated in the "sixties" by Richardson, Simpson, Sansom, Nunneley, and others, and it was given by inhalation about that period for headache, neuralgia, chorea, &c. As it was found to produce decided ill-effects its use was abandoned. Since that time it has received very little attention from pharmacologists or clinicians. My own experiments, made nine years ago, are probably the most recent. In these I compared the action of chloroform and carbon tetrachloride, more particularly as regards their toxicity. The action of carbon tetrachloride was found to resemble that of chloroform, the differences being explicable to a large extent by differences in physical characters (vapour pressure, solubility in water, &c.). It is important to note that all observers have found carbon tetrachloride to be more toxic than chloroform. It is more irritant to mucous membranes and is much more depressant to the circulatory and respiratory systems. During its inhalation cardiac weakness and irregularity and cyanosis have been described and after the return of consciousness cardiac weakness, headache, and mental and bodily exhaustion have been noted. Anæsthesia is less easily produced and is slower in appearing than that by chloroform owing to the lower vapour pressure of carbon tetrachloride (boiling point of chloroform from 60° to 62° C., of carbon tetrachloride 76·5° C.), but it also disappears less quickly. It is probably owing to this relatively low vapour pressure that no fatalities have hitherto been described but it is obvious that such a dangerous substance should not be in the hands of hairdressers to use on all and sundry.

Broughty Ferry, N.B.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF TETANUS.

By D. LEIGHTON DAVIES, M.D., M.S. LOND.

THE patient, a healthy-looking farm labourer, aged 45 years, fell down on the road and sustained a cut over the right malar bone. The wound was not treated in any way and in the course of the next few days it kept "gathering and discharging." Six days later he felt his jaws becoming stiff and on the seventh day he was quite unable to open his mouth. When seen on the following day—i.e., eight days after the infliction of the wound—he was quite unable to move his lower jaw more than one-sixth of an inch. There was a suppurating wound over the right malar bone just below the outer margin of the orbit. From this a track passed beneath the skin for about one and a half inches into the cheek and this contained a quantity of yellow pus. No bare bone was felt. There was slight chemosis of the conjunctiva of the right eye. He was intelligent and, except for the trismus, complained of no pain. There was complete right facial paralysis, the furrows on the right side of the forehead and the naso-labial fold being obliterated. There was inability to close the right eye and the lower eyelid had fallen away from the globe of the eye. The mouth was drawn over to the left. Both masseter muscles felt firm, but could be made harder by voluntary effort. There was no spasticity or paralysis of any other muscles of the body, the neck muscles being quite normal. There was no loss of sensation anywhere. Both knee-jerks were brisk and the plantar reflex was flexor. His pulse was normal in rate and his temperature was 99° F. On the next day (i.e., the third day of the illness) laryngeal spasms developed. Sudden paroxysms of intense dyspnœa would occur from time to time, during which there was tremendous action of the platysma myoides, giving the face a very hideous expression. He became almost maniacal during these paroxysms, tearing the dressings off his head and throwing himself about violently, and all the while he was bathed with a profuse perspiration. There was no cyanosis even during an attack and the pulse was strong. The temperature remained normal. In the intervals between the paroxysms the neck appeared to be a little stiff. To allay the paroxysms he was given a quarter of a grain of morphine hypodermically and this gave him relief for over 12 hours. At the expiration of that time he suddenly became worse, jumped out of bed in a frenzy, and fell back dead. Unfortunately, a post-mortem examination was not permitted, but I succeeded in obtaining the trunk of the facial nerve of the right side as it left the stylo-mastoid foramen. To the naked eye it looked quite normal and microscopical examination showed an entire absence of pathological changes both in the neurilemma and the nerve fibres themselves.

Remarks.—The case was undoubtedly an example of infection with the tetanus bacillus, though at the time I overlooked the desirability of taking some of the pus for bacteriological examination. It differs, however, from the somewhat meagre description of this variety as given in the text-books I have consulted. The prognosis is stated to be somewhat more favourable in this variety than in the generalised type, but in this case death occurred three days from the onset of symptoms and nine days after the opportunity of infection occurred, and there was an entire absence of generalised spasm. There was no pharyngeal spasm but the laryngeal spasm was very distressing. The sudden termination of the disease in death may have been due to the laryngeal spasm or more probably to a sudden spasm of the cardiac muscle caused by the action of the toxin on the vagus centre. With regard to the underlying pathological changes leading to the facial paralysis, it has in the past been suggested that there was an ascending neuritis of the facial nerve. In the cases that have been examined no such changes have been found in the facial nerve and certainly there was no neuritis in this case. It is very probable that the paralysis is due to the action of an excessive dose of a virulent toxin on the nucleus of the facial nerve leading to the destruction of its cells. This is rendered more probable by the fact that the only muscles affected by the spasm were those which were innervated by nerves having their origin from nuclei in the neighbourhood of the seventh. The toxin must have reached the facial nucleus by passing up the lymphatics accompanying the facial nerve, for clearly it was not likely to have been the blood-stream, seeing the region picked out was so localised and definite. This fact, too, may explain why it was that the facial nerve was paralysed and the other nerves escaped, for it may be conjectured that the virulent toxin meeting first the cells of the facial nucleus destroyed them, and that by the combination of some of the toxin with the protoplasm of the cells, which is known to occur, the virulence of the toxin was diminished so that its action was merely irritating and not destructive on the remaining nuclei.

Wisbech.

CALCIUM SALTS AS A CARDIAC TONIC.

By JOSEPH STARK, L.R.C.P. & S. EDIN., L.F.P.S. GLASG

CALCIUM salts have come much into prominence of late in the treatment of ulcers, both internal and external; they are also advocated for chilblains and to be given before operations likely to be attended with severe hæmorrhage. The well-known therapeutic effect of calcium salts is that they increase the coagulability of the blood. It is therefore quite easily understood why they are given in cases where hæmorrhage is anticipated but in cases of cardiac disease and pneumonia I think that some reasoning is required before accepting the same. Having under my care a married woman, aged 40 years, suffering from an ulcer on one of her legs, which seemed to be due to deep varicosity of veins I gave her 15 grains of calcium chloride three time a day. At the time I did not further examine her as she was fully dressed. I was called out on the third day of treatment to see her—she was complaining of numbness of the right side of the body and was cyanotic. The next day she was a little better but still had the feeling of "pins and needles" in her right arm and leg. On the following day she had complete hemiplegia. There is no doubt on account of the slow onset that the lesion was due to cerebral thrombosis. I may state that I had now further examined the patient and found that she had a mitral lesion. I thought of my treatment and the therapeutic use of the same and came to the conclusion that the calcium salts had something to do with the condition of the patient. Sir James Barr has lately advocated calcium salts in pneumonia. It is well known that an ante-mortem clot is found in the pulmonary artery in most of the fatal cases of pneumonia. Then why should the practitioner endeavour to increase the coagulability of the blood? Dr. W. Blair Bell says that it is only in certain cases that we should use the same. I do not think that Dr. Bell's method of examining the blood is applicable in general practice and therefore I would advise general practitioners at least not to treat pneumonia and diseases of the heart by the calcium salts.

Annfield Plain, R.S.O., Durham.

HERNIA OF ILEUM PRESENTING OVER THE THORACIC WALL.

By HERCULES H. MACDONNELL, M.D. DUB.,
SURGEON, LOUTH COUNTY INFIRMARY.

A MAN, aged 28 years, was admitted into the Louth County Infirmary, Dundalk, on Oct. 8th, 1906. On the previous day he had been knocked off his bicycle. On admission he complained of faintness and pain over the chest, and a small tumour about two inches in diameter was seen situated over the sixth and seventh ribs on the left side about two and a half inches from the border of the sternum; this was extremely painful to the touch, so much so that a thorough examination without the aid of an anæsthetic was not possible; for several reasons it was not considered advisable to administer one. The skin over the tumour had a slightly bluish appearance. A tentative diagnosis of fractured ribs with a possible hæmatoma was made. Pads were placed at either side of the tumour to avoid pressure and a broad flannel roller applied over the thorax. The bowels were freely moved on the next day. On the fourth day after admission, on removing the pads and bandage to make a further examination, a superficial area of four inches broad was seen to be bright red and fluctuation was felt. The surface having been sterilised a free incision was made over a director, when an escape of gas and fæculent matter took place. A portion of intestine, doubled on itself, of the thickness of a thumb and gangrenous, was found lying in the wound; the tissues were undermined in every direction with fæculent matter. The bowel having been with some difficulty drawn up till a healthy portion was reached was divided, one end was sewn to the skin, and a thoroughly permeable fistula established. Owing to the patient's collapse and to the state of the tissues it was not deemed advisable to proceed then to further operative measures. As much of the gangrenous intestine as possible was removed. Subsequently rectal alimentation was carried out, which for a time succeeded extremely well, eventually enabling a little strong beef essence to be taken by the mouth, but after a week this had to be discontinued, as fæculent matter, discharged through the opening, brought on such an unhealthy condition of the integument and subjacent tissues. Small enemata of saline solution used for the purpose of maintaining the rectum in a healthy condition were passed through the thoracic wound, but the patient gradually became weaker. As soon as the tissues surrounding the fistula were brought into a tolerably healthy condition an end-to-end anastomosis with a Murphy's button was carried out; eight hours afterwards flatus and fæces were passed freely through the anus, but the patient gradually sank and died in about 24 hours. During the operation the track of the hernia was carefully traced by dissection; the bowel, a portion of the ileum, was seen to escape from the abdominal cavity at the extremity of the ninth rib, passing over the eighth rib, and had forced its passage up to the upper border of the sixth rib.

Dundalk, co. Louth.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Congenital Night Blindness.—Subretinal Cysticercus.—Metastatic Tumour of Choroid.

A MEETING of this society was held on June 13th, Mr. PRIESTLEY SMITH, the President, being in the chair.

Mr. E. NETTLESHIP communicated a genealogy in which Congenital Stationary Night Blindness occurred in Nine Consecutive Generations during about 250 years. This disease, often hereditary, was less known than retinitis pigmentosa and its so-called unpigmented variety and, unlike them, did not progress. A great part of the present case was published by Cunier nearly 70 years ago and had been mentioned by many writers. But the nature of the disease was unknown until a year ago, when, at Mr. Nettleship's request, Professor Truc of Montpelier examined several living night-blind descendants, established the diagnosis, and instituted a fresh inquiry, resulting in an extension of Cunier's tables from upwards of 600 persons in seven generations, to nearly 1800 in ten generations. Only certain branches of this large tree, containing about 260 persons, bore the disease, and of this number just *one-half* (129) contained in 60 childships were affected. In half the affected childships (29) the proportion of diseased to healthy agreed with the Mendelian theory; others showed a near approach to agreement, and others again would conform if the dominance were supposed to have been reversed. About a quarter of the cases seemed inconsistent with Mendelism, but incompleteness of record doubtless accounted for some of these. The disease always passed from parent to child without a break, was rather commoner in females than males, did not lead to blindness, and was not accompanied by any other defects or peculiarities. It was not due to consanguinity; there were only two first cousin and seven second cousin marriages, and only one of these nine produced night-blind children. No ophthalmoscopic changes were noted.

Mr. L. WERNER (Dublin) showed a coloured ophthalmoscopic drawing, lantern slides, and microscopic sections of a Subretinal Cysticercus. The patient, a youth, aged 19 years, had noticed a failure of sight in the right eye for four months. The eye was normal in outward appearance and the tension was also normal, but in the fundus close to the optic disc was a large spherical projection covered by the retina and resembling an intraocular tumour. It presented a transparent, bluish-white appearance with a very delicate margin in some parts. The surface was smooth and marked with white connective tissue-like areas and a small portion was pigmented. A remarkable feature was the presence of a deep pit in the tumour and also an enormously dilated retinal vessel, which disappeared abruptly in the growth. The diagnosis was doubtful and the eye was removed. On examination it was found that the growth was an intra-retinal cyst, in which a cysticercus had been encapsuled. The pit seen in the growth with the ophthalmoscope was found to be due to a mass of granulation tissue, which divided the cyst into two cavities in the sections. It extended from the posterior to the anterior wall and by retraction of the latter produced a depression in it. The blood-supply of the granulation tissue was derived from the dilated vessel alluded to before. Mr. Werner stated that intra-retinal cysticerci were very rare, for of 29 cases anatomically examined only three were in the retina.

Mr. WHITEHEAD read notes of (1) a case of Metastatic Tumour of the Choroid. A mammary tumour, which had been present two years, was removed seven years ago. Recurrence took place in the scar and many metastatic tumours appeared in various parts of the body. Vision failed in the right eye and after four weeks the eye became blind and glaucoma set in. The eyeball was excised and a flat growth was present in the choroid. Microscopically this was found to consist of closely packed spindle-shaped cells with an excess of fibrous tissue between irregular groups of tumour cells. 2. A case of Multiple Cysts of the Retina associated with Glaucoma.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Specimens.—Administration of Gas and Ethyl Chloride.—Massage and Movement in the Treatment of Fractures.—The Naso pharynx as Infection Carrier in Epidemic Cerebro-spinal Meningitis.

A MEETING of this society was held on June 5th, Dr. J. O. AFFLECK, the President, being in the chair.

Dr. R. W. PHILIP showed a series of specimens from cases of Poisoning by Hydrochloric Acid.

Mr. WILLIAM GUY read a paper on the Administration of Gas and Ethyl Chloride. He said that, having administered anæsthetics to some 26,000 patients without mishap, without experiencing a moment's anxiety, or having to use a pair of tongue forceps or to practise artificial respiration, he might be allowed to express some confidence in his methods. He employed from time to time all the usual agents alone, in mixture, and in sequence, but his present practice was to use nitrous oxide for all operations that could be performed in 30 seconds, nitrous oxide and ether for operations requiring from one and a half to three and a half minutes, and nitrous oxide and ethyl chloride mixture for operations requiring from 30 to 90 seconds, this last class comprising the great majority of hospital extraction operations. He referred to "somnoform" and said that although it was unstable and expensive and had no advantages over ethyl chloride alone Dr. Rolland's researches in connexion with it were of great value in drawing attention to its constituents, particularly ethyl chloride. Ethyl cloride was at present under a cloud owing to the large number of deaths (30) recorded as attending its use and to its disagreeable after-effects. He quoted the opinions of authorities and said he had himself entirely given up the use of ethyl chloride by itself, because the mixture of gas and ethyl chloride was in every way preferable. The dangers of ethyl chloride anæsthesia were (1) direct cardiac inhibition; and (2) asphyxia from (*a*) partial or complete respiratory obstruction; and (*b*) paralysis of the respiratory centre by an overdose. The first danger was avoided by giving nitrous oxide to slight narcosis before ethyl chloride; the other dangers must be met by taking all precautions to eliminate the asphyxial element and by keeping the dose of the drug and the time of administration within the ascertained limits of safety. He described his apparatus and method of administration. He referred to the importance of not stretching the patient's neck. He used gags which were a slight modification of Hewitt's gags. He insisted on the gag always being placed centrally, never at the side of the mouth, and his gags therefore had horizontal instead of sloping surfaces. He rather advocated the use of a small centrally-placed gag as a routine procedure in anæsthesia, the ready access thus afforded to the mouth being of incalculable value in case of obstructive respiration. He used a one-gallon bag of gas, allowed the patient to rebreathe gas for five respirations, then poured in the ethyl chloride, the dose of which never exceeded three cubic centimetres, and allowed the mixture to be breathed and rebreathed for 25 seconds. By this practice wonderfully uniform results were obtained. The induction was pleasant, the recovery immediate, and after-effects were extremely rare. The residual air was sufficient to oxygenate the blood during the brief inhalation, consequently there was no cyanosis and with the dose limited to three cubic centimetres and the time of inhalation also limited there was no danger of an overdose. The temperature of the room should not be below 60° F. and the bag should be dry; the mixture was strictly a single dose anæsthetic and should never be used for long operations. He thought ethyl chloride would be rehabilitated in the eyes of the profession if its use alone were abandoned, if its limitations were recognised, and above all if it were given only in mixture with gas in a suitable apparatus and with a defined maximum of dose and time of inhalation never to be exceeded save by exceptionally experienced anæsthetists. His apparatus had been made for him by Messrs. Gardner and Son.—Dr. T. D. LUKE, Mr. J. H. GIBBS, and the PRESIDENT took part in the discussion which followed.

Mr. CHARLES W. CATHCART read a paper on the Use of Massage and Movement in the Treatment of Fractures. He said that with very few exceptions every fracture could have massage applied to it with much benefit to the patient. The methods of treating fractures which were universally accepted 20 years ago and which were still practised by perhaps the majority of surgeons were based upon the supposed necessity of absolute immobility of the broken ends of the bone until the callus was well formed. Immobility was a first principle and as a corollary the rule was that the apparatus which fixed the broken ends should also fix the joint above and the joint below. The period during which immobility was kept up varied from three weeks to three months or longer. After union the return of the limb to functional usefulness was taken into consideration but not before. It was then found that the weakness and stiffness of the muscles and the limited range of movements of the neighbouring joints often entailed more than double the period of functional disability of the injured limb and in many cases were permanent. These consequences were considered to be inevitable. The experience of Professor L. Championnière, Professor Guermonprez, and others in France, of Mr. A. G. Millér and others in Edinburgh, and of Sir William H. Bennett, Mr. Wharton P. Hood and others in London and elsewhere had shown that absolute immobility was not necessary. The following conclusions might be stated. 1. That absolute immobility was not essential to bony union; the slight movement involved in daily massage and in the daily practice of active and passive movements of the adjacent joints seemed to hasten the formation and solidification of the callus. 2. That extravasated blood in joints, muscles, and synovial sheaths led to adhesions as if it were a source of irritation. 3. That the use of massage in the form of stroking and gentle kneading combined with occasional movements was very beneficial not only in hastening union but in aiding absorption of effused blood and serum, and in preventing the formation of adhesions, and in maintaining nutrition of the muscles. By these means the limb was prepared to resume its functions almost as soon as the bones were united. 4. That splints and other retentive apparatus, including extension, were required more to prevent mal-union than non-union and were called for when the weight of the limb or muscular action might lead to bad position. The object of massage, given one or two hours after the accident, was to diminish the swelling, to allay muscular spasm, and to soothe pain after acute symptoms had subsided; massage stimulated circulation in the limb, dispersed accumulations of blood and serum, and maintained the nourishment of muscles, nerves, and soft parts. Massage must be applied without giving the patient pain. Active movements of muscles must be more effective in maintaining the nutrition of muscles and of the limb than passive movements but they were attended with a greater risk of displacing the ends of the bone. Thus passive movement was often permissible at an early stage and would be especially useful in preventing the formation of adhesions between muscles and nerves and the bones at the seat of fracture and within joints and synovial sheaths, while active movements would be of most value in keeping up the nutrition of the soft parts generally. Both forms of movement required to be used with care to avoid displacement of the broken ends of the bone. Splints were required to prevent deformity and to give support during the painful stage. These splints should not constrict the limb or hinder circulation and should not fix the neighbouring joints, so allowing occasional voluntary movements. The long splint should not now be employed in fractures of the femur (except in restless children or delirious adults) because fixation was not necessary and sandbags would prevent rotation. Splints might be of value in giving support as in Colles's fracture. Extension by weights or elastic cords was in some cases indispensable for obtaining apposition of the broken ends as was seen in oblique fracture of the femur where the continuous pull tired out the muscles, relieved spasm, and diminished or completely overcame the over-riding. The mistake often made was in continuing extension too long. It was seldom necessary to apply it for longer than three weeks and usually a much shorter time sufficed. In fracture of the clavicle a more rapid and equally satisfactory result was obtained by the use of the simple sling instead of the cumbrous appliances often used. The elbow might be supported for a few days merely to relieve discomfort but massage and movements of the muscles and joints sufficed to obtain a rapid union. In fractures of the humerus, unless there was great displacement, rest in bed without any appliance for the first few days and daily massage would conduce to early functional restoration. The deformity in a Colles's fracture must be reduced by extension and manipulation and mobility of the wrist and fingers must be conserved by massage and early movement. During the early days support was afforded by a splint and sling. Mr. Cathcart alluded to other fractures which should be treated in this way with advantage to the patient.—Mr. DAVID WALLACE, Mr. ALEXANDER MILES, Mr. J. W. DOWDEN, Mr. A. A. SCOT SKIRVING, Mr. GEORGE L. CHIENE, Dr. J. H. A. LAING, and Dr. A. D. WEBSTER took part in the discussion.

Dr. J. S. FRASER and Dr. J. D. COMRIE communicated a paper on the Naso-pharynx as Infection Carrier in Epidemic Cerebro-spinal Meningitis. Dr. Fraser said that the idea of carrying out this investigation in Leith was suggested to him by reading the papers of Dr. Ludwig Jehle on the Epidemiology of Cerebro-spinal Meningitis. He pointed out that school epidemics were unknown, that second cases in the same house were uncommon, and that cases of cerebro-spinal meningitis, which had been put into scarlet fever or other wards on a wrong diagnosis, did not give rise to further cases in these wards, and, finally, that meningococci were not found in the noses of these other children; he concludes, therefore, that cerebro-spinal meningitis was not like other infectious diseases in its mode of spread and that children might be excluded as infection bearers. On the other hand, he pointed out that coal-mines were good incubators, as in them they had heat, darkness, and moisture—all favourable to the growth of micro-organisms. *Miners also made good* infection carriers, as they frequently suffered from chronic rhinitis and pharyngitis and were in the habit of constantly hawking and spitting; they also used the same tools and drinking vessels in the *mines*; on the return of the miner to his home the children might become infected by kissing, using the same drinking vessels, or, in the case of very young children, by crawling about on the floor on which the fathers had expectorated. The table "Orlan-Karivics" showed the cases connected with the 16 *shafts of the mine* during the months of January till May. Five, eight, and 19 cases occurred in those families in which the fathers worked in certain shafts. The families themselves lived far away from one another, did not know each other, and had no contact with one another. Contact on top of the earth could not be proved. The connexion was, however, quite clear when they considered the mine or shaft; the miners infected one another during their work and carried the germs home to their families. In table "Neumühl" and "Deutscher Kaiser" the cases were divided according to the shafts. In almost all cases the disease affected the children of workmen belonging *to one shaft*. The children of other workmen from other shafts remained well though they lived in the neighbourhood of the sick children. With regard to coal mine "Neumühl" with two shafts and coal mine "Deutscher Kaiser" with four shafts, the miners lived in colonies belonging to these mines and also to some extent in private houses. Other workmen also lived in the colonies which were in close contact. The children from various colonies come together at school and play. In January, 1906, 23 cases occurred; the fathers of all of these worked in the Neumühl mine; there were no cases in the Deutscher Kaiser mine. After Feb. 1st, 1906, several miners came from the Neumühl to the Deutscher Kaiser mine and on Feb. 10th the first case occurred in a child of one of the miners of the Deutscher Kaiser. In the Neumühl epidemic the children of fathers working in certain shafts were quite free from disease; from other shafts a few cases occurred; and from others very many. The dwelling houses of the cases were quite separate. It was found that when miners were transferred from uninfected shafts of the Neumühl to the Deutscher Kaiser mine no cases occurred in the latter, but when they came from infected shafts such as No. 15 there was a serious outbreak among the children of the miners of the Deutscher Kaiser shaft to which these infected workmen had gone. The conclusion come to by Dr. Jehle was that in mining districts the coal mines played the same part as the school in the spread of other infectious diseases. With regard to epidemics of cerebro-spinal meningitis in garrisons, prisons, and workhouses the possibility of a naso-pharyngeal infection was not to be excluded; in fact, it was extremely likely. The following seaport towns had been affected by the present epidemic: Glasgow, Belfast, Leith, New York, New Orleans, Boston, Hamburg, Copenhagen, and Antwerp. Other cities have been affected, inland cities, but the number of seaports involved was certainly noteworthy; in regard to this it was at least possible that emigrants played a part in spreading the infection. As to the epidemic in Leith there had been 83 cases up to May 28th, 1907 (53 deaths). The connexion with the docks was very marked indeed, at any rate at the commencement; the social class affected was the lowest one—the casual labourers and their wives and children; the habits of this class as regards cleanliness were well known. He referred to the state of the houses visited, to the conditions under which meals were taken, and to the habit of hawking and spitting. Dr. Fraser suggested that in a ship below decks conditions to some extent resembling those in a coal mine were met with—darkness, moisture, and heat; the presence of coal dust in certain parts must not be forgotten. 80 per cent. of the patients in the Leith epidemic were under 16 years of age; this was just the age at which naso-pharyngeal catarrh was most common in connexion with the presence of adenoid growths in the naso-pharynx. The children themselves did not go down to the docks and if the epidemic had been connected with the docks it was almost certainly through the fathers. The investigation carried out was admittedly incomplete and was by no means free from difficulty. Dr. Fraser and Dr. Comrie had no compulsory powers and the parents and children were often frightened and refused to be examined. The secretion was withdrawn from the naso-pharynx by means of a long sterilised platinum loop, the nostril being dilated by a speculum and the greatest care being taken to avoid touching the speculum or the vestibule of the nose. The secretion was then smeared over the surface of a sloped blood agar or ascites agar tube and the tubes were all placed in the incubator within one hour of being taken. Disappointment was felt at not finding the organism in a higher percentage of the "contacts," especially of the fathers; it must be remembered, however, that only one loopful was taken from each case and probably it would have been better to have examined the fathers, at any rate, on several occasions. Of the 83 cases seven were double cases in one house. With regard to the prophylaxis, the fact that measures of this nature taken in other infectious diseases had proved useless in stopping an epidemic of cerebro-spinal meningitis went far to prove the unusual method of infection in this disease—shutting up the schools, removing the patient to an isolation hospital, and disinfection of the house and contents had practically no influence on the progress of the epidemic. If the theory of naso-pharyngeal infection through the fathers or others was the true one, it pointed to the necessity for isolation of all "contacts" and bacteriological examination of the nose and naso-pharynx. These cavities should subsequently be disinfected with very dilute formalin or with izal, boric lotion, silver nitrate, or potassium permanganate solution, or pyocyanase. Since Dr. Robertson introduced this antiseptic treatment of the "contacts" at Leith there had only been one second case in a family, and Dr. Fraser was informed that this patient was already feeling ill at the time when treatment was commenced. The "contacts" should only be allowed to leave the hospital after their noses had been reported to be free from the meningococcus on two consecutive occasions. The objections to this method of prophylaxis were, first of all, the expense of isolation and examination and probably also of compensation; and, secondly, the tendency to secrecy which such a course might involve.—Dr. COMRIE explained how the cultures were made on blood-film agar or ascitic agar. The meningococcus was found in the naso-pharynx of two out of 13 cases of epidemic cerebro-spinal meningitis examined. This small proportion was probably due to the extreme difficulty of isolating one organism from patients who were extremely ill and whose nasal cavities swarmed with many different forms. The organism was found in the naso-pharynx of ten out of 69 "contacts" with these and other cases. Of these ten five were fathers of the cases, and of the 69 "contacts" 15 were fathers of cases. While the organism was present in 9 per cent. of the mothers, brothers, sisters, and other relatives, it occurred in 33 per cent. of the fathers. Five of the 15 fathers worked in a ship in the dry dock and in exposing Petri dishes containing ascitic agar in various parts of this ship below decks the meningococcus was found in the air of the engine-room. The naso-pharynx was examined in 23 controls who had no evident connexion with the disease and the organism was not found in any of them.

EDINBURGH OBSTETRICAL SOCIETY.

Vaginal Cæsarean Section.—Congenital Goitre after Administration of Potassium Iodide to the Mother.

A MEETING of this society was held on June 12th, Dr. J. W. BALLANTYNE, the President, being in the chair.

Dr. N. T. BREWIS read notes of Six Cases of Vaginal Cæsarean Section. The first patient was operated on for severe and intractable vomiting; she was in the fifth month of pregnancy and owing to the vomiting had been brought to a condition of extreme danger. The operation was performed in the patient's house without any special preparation and was successful in every way. The second patient was seven and a half months pregnant; the urine was loaded with albumin and her feet were swollen. She complained of headache, was stupid, and at times only half conscious, while on the day previous to the operation she was more or less comatose and had only passed a very small quantity of urine which solidified on boiling. At the operation a living child was delivered who survived after much care with the aid of an incubator. The mother recovered after passing through an attack of broncho-pneumonia. Dr. Brewis preferred the operation to that of the classical Cæsarean section as being simpler, safer, and more quickly performed. The operation was performed at full time in the third patient for stenosis of the os following amputation of a hypertrophied cervix. The child was born alive and the mother made a good recovery. The fourth patient suffered from mitral stenosis and incompetence with œdema of the lungs. She suffered greatly from breathlessness with heart pain and insomnia; her condition was very critical. The termination of the pregnancy was urgently indicated and Dührssen's operation was adopted as one calculated to cause the least strain to the heart. The result was most satisfactory, the patient being able to lie down and to rest comfortably on the third day after the operation. The indication in the fifth case was hæmorrhage caused by premature detachment of a portion of a placenta prævia; floodings had occurred at intervals. The patient was about six months pregnant and at the time of the operation was blanched and in a state of extreme weakness. After transfusion was performed vaginal Cæsarean section was done and the uterus was emptied. The patient recovered. The sixth case was one of continuous hæmorrhage in a patient two and a half months pregnant. Though the uterus might have been emptied by other means Dr. Brewis preferred Dührssen's method because it could be carried out more quickly and conveniently than by any other procedure. All the mothers recovered. Dr. Brewis said he considered that whenever the element of time was of importance vaginal Cæsarean section was a valuable addition to their resources. An operation which enabled them to pass the hand with safety into the interior of the uterus in a couple of minutes was one that might reasonably have its indications extended. It should not be restricted to cases of a serious nature but might be applied to all cases where the operation could accomplish its object more easily and conveniently than any other. It was an operation which appealed strongly to anyone with surgical instincts and those who had had experience of it could not do otherwise than commend it.—Dr. J. LAMOND LACKIE, Dr. J. HAIG FERGUSON, and the PRESIDENT made remarks on the paper, and Dr. BREWIS replied.

Dr. B. P. WATSON read a paper on Congenital Goitre occurring after potassium iodide had been administered to the mother during pregnancy. The mother had suffered from syphilis and had had five miscarriages, two at the third month and three at the seventh month. During the three succeeding pregnancies she was treated with potassium iodide and carried two of the children to full time. The second of the children had at birth a large goitre which gradually decreased in size till the child's death from an intercurrent disease at the age of three and a half months. Histological examination showed the goitre to be of the parenchymatous variety. Four cases were mentioned where congenital goitre followed the administration of potassium iodide to the mother during pregancy and one where both the chlorate and iodide had been given.—The paper was discussed by Dr. JAMES RITCHIE, Dr. H. O. NICHOLSON, Dr. G. KEPPIE PATERSON, Dr. FERGUSON, and the PRESIDENT, and Dr. WATSON replied.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on June 13th, Mr. W. D. Spanton, the President, being in the chair. The following motion was adopted:—

> That we, the Fellows of the British Gynæcological Society, desire to express our feelings of deep regret at the loss the society has sustained through the death of our Honorary President, Dr. Robert Barnes.

Mr. A. W. Mayo Robson gave an address on the Modern Treatment of General Peritonitis and said he wished to bring the subject forward in a general way from the point of view of pelvic as well as of general surgery. He advised early operation and if undertaken within 12 hours of the onset this ought to result in saving the patient; if within 24 hours there was a probability that the patient's life would be saved; but if later there was only a chance of doing so. As short an operation should be done as possible without any damage to the viscera. If the cause were discovered it ought to be removed. Sponging and washing should be avoided but as much pus should be removed as could be done conveniently. After injection of as much fluid as possible either by the rectum or transfusion the patient should be propped up in a sitting posture in order that the septic fluid might gravitate to the lowest part of the abdomen and so be drained away readily. —Sir W. J. Sinclair recommended morphine and large doses of alcohol combined with flushing of the abdomen with saline solution, and considered if puerperal patients were watched and treated well they would not get peritonitis.—Mr. Charles Ryall believed the best form of drainage was by absorption and this was obtained by free action of the bowels.—Dr. Heywood Smith said large doses of calomel gave excellent results in the prevention of peritonitis.—Mr. Alban H. G. Doran said there was a great deal more to be learned about peritonitis and the best principle on which to act was to avoid it. The treatment with opium was of questionable utility.—Dr. Bedford Fenwick found the sitting posture useful when there was a difficulty in getting the bowels to act. He urged the avoidance of drainage and flushing.—Dr. H. M. Macnaughton-Jones advised the application of ice to the abdomen on the first appearance of symptoms. He preferred small doses of calomel to large ones. The most important question was whether the abdomen ought to be opened early or whether the symptoms only should be treated. He advised subclavian or submammary infusion in preference to rectal injections.—Dr. J. H. Dauber considered that the real hope for the future lay in the antitoxin method of treatment.—Dr. W. H. Slimon, Dr. H. Beckett-Overy, and the President also spoke and Mr. Robson replied.

Reviews and Notices of Books.

Alcohol and the Human Body. By Sir VICTOR HORSLEY, F.R.S., &c., and MARY D. STURGE, M.D. Lond. With a Chapter by ARTHUR NEWSHOLME, M.D. Lond., Medical Officer of Health of Brighton. With 14 plates and 21 illustrations in the text. London: Macmillan and Co. 1907. Pp. 370.

THE literature already published in reference to alcohol is so voluminous that it might be doubted whether any new book was necessary or could be expected to settle once and for all this much-debated subject. The prominence recently given to the question in medical circles and the scientific eminence of the principal author of the present work will, however, doubtless secure for it a wide circle of readers. The book is not specially addressed to the medical profession but to the public at large and is commendably free from technical expressions. The descriptions of the cells of the body, of the various tissues, and especially of nervous structures, as well as of the different functions which the organs discharge are given in simple language which the lay reader will have no difficulty in grappling with.

Sir Victor Horsley's views on alcohol are fairly well known; his platform utterances have led most to regard him as an extremist; but in the book before us extravagant language is conspicuous by its absence and its conclusions gain rather than lose thereby. We are, of course, in thorough agreement with those portions of the book which are directed against the misuse rather than the use of alcoholic beverages. There is no truer friend of temperance than the medical man. But the list of ailments due to alcoholic excess may surprise even the medical reader by its length, just as the list of maladies which advertisers proclaim their patent nostrums are good for is also portentously and impressively long. There is no pill which is a universal panacea for all human ills and there is no single cause to which nearly every illness can be attributed. The evils due to excess of alcohol are real and numerous and it is almost a truism to say that the nation's health and morals would improve if the immoderate use of intoxicating liquor was stopped. The change for the better which has already occurred is partly due to the gradual evolution of the moral sense of the people; still, we do not minimise the efforts of the teetotal party. Every great reform has had its enthusiasts and its fanatics. It is often only the fanatic who can obtain the ear of the people; too often they are deaf to the more reasoned voice of the accurate thinkers who can see both sides to a question.

Alcohol is not taken as a food; its combustion in the body may liberate a certain amount of heat and energy, but it is not for this reason that people take it. We may also freely admit that it is a poison and in sufficient doses a dangerous poison. We should not hesitate to prescribe teetotalism to those unable to restrain their appetites, to those who have an inherited or other taint in the direction of want of nervous control, and to those whose limited income should make them hesitate to spend their money in indulgences. But it is a very different thing to recommend universal abstinence from alcoholic drink. The tendency of medical practice has been to lessen materially the employment of alcohol as a drug in recent years; still, we doubt whether many practitioners would care to be altogether without it in emergencies. To expunge alcohol from the Pharmacopœia because it is a poison would be only the first step in excluding many other useful drugs for a precisely similar reason. It is hardly necessary to point out that the use of a poison as a drug is a question of dose and that another factor in its employment is the presence of abnormal conditions of the body. Sir Victor Horsley and Dr. Mary

Sturge see this in reference to other drugs; still it is only in the case of alcohol that they recommend its complete or all but complete disappearance. What they say about tea forms a useful illustration of the logical attitude. On p. 108 they quote with approval from Dr. T. S. Clouston the following sentence: "Its use *in moderate quantity* is not followed by any injurious reaction and is not prejudicial *to any of the functions of the body*." (The italics are ours.) Again on p. 213 we read: "Tea and coffee were also proved to retard gastric digestion; but the author (Sir W. Roberts) gives no report concerning the effect of those weak infusions of tea which have lately come into vogue, and which are little more than hot water."

It is, of course, both with regard to tea and alcohol a question of dose, the question of what is moderate drinking being the one on which the opponents of Sir Victor Horsley's views will join issue with him. No one wishes to dispute his conclusions regarding the immoderate drinker. It is very difficult to define accurately the word "moderate," and those who have even the slightest tendency to overstep the boundary would be safer if they became abstainers. But to suppose that the man who takes a glass of beer with his unch or a glass of claret with his dinner is materially njuring his health and morals or shortening his life is contrary to common sense and everyday experience. We ind in the chapter which Dr. Newsholme contributes the usual statistical argument derived from insurance offices. Thus we find that of every 100,000 total abstainers 45,000 die before *they reach the age of 70 years*; and of non-abstainers 56,000 die before that age. Dr. Newsholme admits that the non-abstainers include a proportion of drunkards (and we would add of immoderate drinkers who may not be *actually drunkards*) and yet he sums up: "We are compelled to conclude that what is commonly described as moderate drinking has a most injurious influence *on health* and life." Our own conclusion would be that statistics comparing the length of life between abstainers and really moderate drinkers are still lacking.

Some of the arguments directed against moderate drinking savour somewhat of the special pleader; thus the use of the ergographic method of estimating the onset of fatigue is decried because of its uncertainty. The old ergograph of Mosso doubtless lent itself to this objection, but the greatly improved form lately used by Dr. W. H. Rivers, especially when employed on subjects who are totally unaware of what drug they have received, is almost entirely free from the exercise of any bias, intentional or otherwise; it is strange that no reference is made to Dr. Rivers's researches. Kraepelin's work is naturally quoted at some length. This observer showed that small doses of alcohol will diminish the rate at which such operations as arithmetical problems can be performed. The duration of the impairment is estimated by an investigation which showed that the effect of a single dose taken in the evening may persist until the morning and noon of the next day. Kürz's experiments upon himself are also quoted under the heading "Duration of Effect of Small Doses of Alcohol." But this observer consumed 80 grammes (or 100 cubic centimetres) of alcohol in water on 12 consecutive days, and 80 grammes of alcohol measure three and a half ounces, which is equivalent to seven ounces of brandy or one and a half pints of port wine. No wonder that he felt the effects even till the fifth day of abstinence, but this is no argument against moderate drinking.

On p. 214 Chittenden's experiments are referred to. Chittenden found that when the percentage of alcohol in a digestive mixture was as low as 1 or 2 per cent. there was sometimes a slight acceleration of the rate of digestion, and that retardation is not very pronounced until the mixture contains from 6 to 10 per cent. or more of absolute alcohol. The conclusion most people would draw from this is that digestion is not retarded until the ingestion of alcohol has largely exceeded the "moderate" limit. But Sir Victor Horsley and Dr. Sturge draw the sweeping conclusion that all forms of alcoholic beverages *seriously retard the chemical process of gastric digestion*. They return to this again two pages later, when they say: "Many persons resort to alcoholic drinks at meal times in order that the flow of gastric juice may be increased. *Unfortunately, in addition to the moderate* increase of secretion of gastric juice a stimulation of the flow of mucus also occurs, which lies like a slime upon the internal surface of the stomach. This mucus is liable to hinder whatever normal absorption occurs from the stomach walls and leads, as aforesaid, to fermentation and production of wind in the stomach." We can imagine such an argument having weight with some people, particularly as it contains words, such as slime and wind, which they can understand, and if it induces a heavy drinker to reform the end may justify the means. We are not, however, acquainted with any researches which have shown that a dose of wine sufficiently moderate to cause an increased flow of gastric juice will produce such an alarming increase of mucus, and still less are we acquainted with the *modus operandi* by which mucus brings about fermentation.

We have been present at teetotal lectures where the lecturer has produced a brain or a liver hardened in spirit like a museum specimen in order to impress upon his audience the terrible effect of alcohol. If the organ had been kept the same length of time in the teetotaler's favourite beverage the effect upon it would have been still more disastrous. On one occasion a lecturer boiled some port wine in a flask and set light to the alcohol which issued from its mouth, saying "that is the terrible stuff you are burning your interior with." It is hardly necessary to say that the present authors do not stoop to follies such as these. We are therefore surprised to find them quoting Dr. J. J. Ridge's well-known unsuccessful attempt to grow cress and geraniums in solutions of alcohol. As well might the anti-water drinker quote Dr. S. Ringer's experiments on the harmful effects of distilled water on micro-organisms and tadpoles. We wonder what would happen to cress and geraniums if an attempt were made to rear them in a solution of caffeine or any other poison. Sir Victor Horsley might retort that caffeine is not tea or coffee, to which we can only reply neither is alcohol the sole constituent of wines, beers, and spirits as usually consumed. The authors certainly protest, and rightfully protest, against the shameful adulterations which are practised in the liquor trade and which have at times been shown to be responsible for effects previously attributed to alcohol but they take no heed at all of the action beneficial or otherwise of the ethers and other substances present in such liquors as old brandy, rum, burgundy, and champagnes.

The book, as we said at the outset, does not really settle the matter, except on points which were previously settled, such as the folly and wickedness of over-indulgence. It only raises the old controversies, sometimes in a way different from that adopted by previous authors, and all we have attempted to do is to point out how slender after all is the evidence that any serious result follows true temperance as opposed to total abstinence.

Text book on Diseases of the Heart. By GRAHAM STEELL, M.D. Edin., F.R.C.P. Lond., Senior Physician to the Manchester Royal Infirmary. Manchester: At the University Press. 1906. Pp. 389. Price 7*s.* 6*d.* net.

THIS volume forms No. VII. of the "Medical Series" published by the University of Manchester and fully maintains the high standard reached by its predecessors. Dr. Steell has aimed at giving an accurate account of the clinical aspect of heart disease, together with a description of the principles of the treatment of the disease. He has admirably succeeded in his endeavours. The book is published at a time when, as the author remarks in his preface, there is an immediate prospect of a great advance in our knowledge of the anatomy, physiology, and pathology of the heart, which promises to lead to much improvement in the application of available remedies. The lines along which this knowledge has recently progressed, and is likely in the future to progress, are duly indicated, and the work of Dr. James Mackenzie and Professor Wenckebach has been especially drawn upon for the purpose. Dr. Steell very properly awards great credit to Dr. Mackenzie for having demonstrated by mechanical means the nature of movements of the circulatory system, as, without such methods, these matters would have caused endless controversy, an instance in question being the pulsation which occurs in veins.

The portions of this volume which will probably attract the greatest attention are those dealing with mitral regurgitation and mitral stenosis. Dr. Steell adopts a different view in the matter of mitral regurgitation from those hitherto maintained by most writers. His remarks deserve close consideration, as they have an important bearing not only on the pathology of cardiac affections but also on their treatment. He rightly points out that in the case of the mitral valve apparatus a vital contractile element has to be reckoned with. No mitral valves, he says, are competent without the assistance of the heart muscle. Muscle contraction is a necessary complement of the mitral valve apparatus. He then proceeds to argue, and doubtless quite correctly so, that in a very large number of cases of mitral incompetence there is no structural disease of the valves; he maintains that they are rendered incompetent only on account of their failing to receive in the performance of their function the assistance from the heart muscle to which physiologically they are entitled. Further, he reminds his readers that for the perfect function of the mitral valve apparatus muscle contraction is necessary in two ways; it diminishes the orifice to be closed by the valves, and by shortening the musculi papillares it keeps taut the spread-out curtains. Dr. Steell is of opinion that in an "enormous number" of cases of mitral incompetence the incompetence is due to failure of the heart muscle only and is independent of any structural change in the curtains of the valves themselves. He then proceeds to discuss the effects of rheumatic endocarditis, and his conclusions will be found most interesting, though scarcely in accord with the views generally held on that subject. He naturally describes rheumatic endocarditis as being the great source of chronic valvular lesions, but maintains that stenosis of the mitral orifice is the result of such mischief in the majority of cases; in other words, that stenosis of the mitral valve is the principal lesion associated with rheumatism. From what we have stated above as to Dr. Steell's views it is not surprising to find this sentence added: "Mitral incompetence is no necessary indication of mitral disease at all."

It follows from these pathological considerations that if Dr. Steell's arguments are correct the physical signs which are usually taken as being diagnostic of mitral stenosis must be reconsidered. In most text-books it is taught that a systolic murmur heard over the apex of the heart is indicative of mitral regurgitation, whilst an apical diastolic or presystolic murmur indicates mitral stenosis. From a statistical inquiry as to the frequency of the different auscultatory signs of mitral stenosis founded on 60 cases, Dr. Steell found that a "systolic murmur in the mitral area" was the most common murmur, occurring in 75 per cent. A presystolic murmur occurred in only 53·33 per cent. of the cases, whilst a diastolic murmur, audible at the apex and above the apex, occurred in 66·66 per cent. of the cases.

We have perused Dr. Steell's work with much interest and can cordially recommend it as being full not only of original thought but of practical knowledge and utility. He states his views with confidence and this tends to carry conviction to the reader. We believe that he has a sound basis for his arguments and that on pathological, as well as theoretical grounds, there are many who will support him in the views which he advances on cardiac affections, more particularly in connexion with disorders of the valves of the heart.

The work concludes with an "appendix" on "The Volume of the Blood in Relation to Heart Disease," by Dr. J. Lorrain Smith, professor of pathology at the University of Manchester.

The History of the Wine Trade in England. By ANDRÉ L. SIMON, F.R Hist.S. Vol. I. London: Wyman and Sons, Limited. 1906. Pp. 387.

THE history of wine is very much bound up with the history of nations and it is chiefly this fact, we think, which makes this book interesting reading. The author expresses the belief that if a better knowledge of the history of wine in this country was acquired by the public a greater appreciation of the virtues of wine would be promoted, the more general use of which "would help to check both drunkenness and teetotalism, evils which every fair-minded and temperate man cannot help deploring." We are by no means certain that this view is correct. Nobody wishes to exterminate the teetotaler, because, after all, he is on the safe side and his error is merely zeal, while everybody would like to see sobriety the rule amongst the people. The story does not teach us that sobriety was the rule even before the days of spirituous liquors and, indeed, the classical instances of drunkenness and alcoholic debauchery were of course due to excessive wine-drinking. The teetotal reader who knows his history must realise that wine has on frequent occasions contributed to the gaiety of nations and gaiety in his mind means the prelude to debauchery and wantonness. It seems to us that a knowledge of the history of the wine trade and at the same time of the drinking habits of the people at various times is calculated to furnish him with a justification for his attitude rather than a condemnation of it. On the other hand, the reader who knows already the subtle influence of wine over his mind and body may be led to continue, if he does not increase, his indulgence of it by the fact of his interest being keenly aroused in all that appertains to its history and production. We see, however, and can appreciate the author's meaning. It is not difficult to read between the lines that his view is that wine-drinking—and we must assume that good sound wine is understood—encourages temperance, as against the drinking of ardent spirits. If that is his view we quite agree. It may be called to mind that spirits approach the character of pure alcohol, and unquestionably the purer alcohol is—that is, the more it is dissociated from other things—the more powerful is its physiological effect. It is a very common mistake to suppose that wine is merely a mixture of alcohol and water; it is not so simple. On the other hand, it is a very complex liquid and it is this complexity which profoundly influences or modifies the action of the alcohol contained in it. In speaking therefore of the physiological action of wines we ought to bear in mind that besides alcohol they contain tartaric acid, ethers, glycerine, tannin, and other substances. The effect of alcohol taken, on the one hand, with food and, on the other, on an empty stomach is acknowledged to be different, and surely the presence of acids, ethers, and astringents must modify its action also.

Mr. Simon must have spent a good deal of energy and time in the compilation of the very interesting historic facts contained in his book and we are sure that the work will appeal to a numerous *clientèle*.

LIBRARY TABLE.

A Last Ramble in the Classics. By HUGH E. P. PLATT. *Oxford: B. H. Blackwell; London: Simpkin and Marshall.* 1906. Pp. 208. Price 3*s.* 6*d.* net.—Readers of Mr. Platt's former delightful little work, "Byways in the Classics," will derive equal pleasure from this his second essay, which, despite the title, we hope will not be the last. Medical men will be particularly interested in this little book, though, unfortunately, they have as a rule but scant leisure to cultivate the classics, and notwithstanding Mr. Platt's rather unkind suggestion that they are prone to display weakness about quantities. But those of our readers who, amid hard work and scanty pay, like the famous coterie in Edinburgh, "*Musam tenui meditantur avena,*" will find charms in Mr. Platt's collection, though the allusions to medical practice in classical times make it appear that the physician and the surgeon were not always the subject of compliment. Martial wrote many rude epigrams upon physicians, and they were not among his best, but Juvenal, in his invective against the "smart set" of his day, is on the side of orthodox medicine when he narrates how the fashionable Roman lady preferred an Egyptian astrologer to the physician. For "astrologer" read "quack," or "hair specialist," or "health culturist," and the same is true to-day. It will be news to many that the Laws of the Twelve Tables, promulgated in 450 B.C. by the Decemvirs, contained a clause in which gold used for stopping a tooth might lawfully be thrown on the funeral pile. This shows how ancient a custom is the stopping of a tooth with gold, and also indicates that gold at that date was very rare among the Romans so that even a minute waste of it had to be legalised specially. It may be remembered that "Byways in the Classics" was made amusing by a selection of "mottoes" or sentences selected from the classics with an eye, and a very humorous eye, upon their application to phases of modern life. The following motto for golfers—and medical golfers are many—may have remained in the recollection of some: "*Miscueruntque herbas et non innoxia verba.*" "A Last Ramble in the Classics" (and again we beg that it may not be the last) contains a further instalment of "mottoes," of which we select the following two for quotation as of special interest to our readers: "For the fee in respect of a fashionable operation—*Appendices maioris muneris.*" "For a country town—*O colonia quae cupis ponte ludere longo!*" The second was sent to Mr. Platt by a medical man, Mr. A. Maude of Westerham. Mr. Platt gives well-earned praise to Mr. E. A. Eade who has suggested various singularly happy applications of the classics, notably the slightly altered Horatian motto for the dripping motor 'bus—"*Cujus odorem olei nequeas perferre ...... Callibus instillat.*" A chapter on melodious verse quotes Dr. Johnson's opinion on the subject. Dr. Johnson chose the fifth line of the first eclogue as an example of the most melodious verse—"*Formosam resonare doces Amaryllida sylvas.*" In our opinion the last line of the same eclogue has a music in it which few other lines, even in Virgil, have: "*Maioresque cadunt altis de montibus umbrae.*" There is a line by one who took Virgil for his master and guide which may fitly stand alongside this, and that is, "*Che paia il giorno pianger che si muore.*" On p. 169 Mr. Platt quotes a curious old Latin puzzle in the form of an epitaph copied from a tomb in Munich. There are, as he says, plenty of similar puzzles and their solution is very easy. We wonder if Mr. Platt has ever exercised his ingenuity upon the well-known sepulchral enigma commencing "Aelia Loelia Crispis." If he has, or if Mr. Eade has, we should like to hear the solution. In the section entitled "Some Questions suggested by Reading the Classics," Mr. Platt raises the point as to how the ancients managed to destroy a body by fire upon the funeral pyre, while it requires in our country, as he says, "an elaborate apparatus and an extraordinary degree of heat to cremate a human body." He has forgotten, we think, to allow for time. It must be remembered that in a modern crematorium a body has to be reduced to ashes in about two hours; hence the elaborate methods; a classical burning might take as long as the operators liked. The pyre of Hector apparently burned for 24 hours. We may point out also, in reference to a quotation from Tibullus, that a cremated bone retains its shape, though it becomes remarkably brittle and light. A body placed on the top of a pile of wood well soaked in oil and lighted from the bottom would soon be consumed—i.e., reduced to bone salts. For the middle of the pile would sink in and allow the body to sink in too, so that it would be "jacketed" with fire. As to the passage Juv. I., 157, a body just frizzled, as is implied by the previous lines, would only be charred superficially and there would be quite enough left to make a "latum sulcum." We owe a debt of gratitude to Mr. Platt for a most interesting little book.

The Principles of Qualitative Analysis. By WILLIAM BÖTTGER, *privat-docent* in the University of Leipzig. Translated with the author's sanction and revised with his coöperation by WILLIAM GABB SMEATON, Instructor in General Chemistry in the University of Michigan. London: Rebman, Limited. 1906. Pp. 300. Price 9*s.* net.—Those who are keeping in touch with the extraordinary developments of chemical science might have anticipated the publication sooner or later of a work on qualitative analysis presented in the light of modern conceptions. The theory of electrolytic dissociation and the law of mass action are constantly in evidence in connexion with the principles of qualitative analysis, and the only scientific method of representing the reactions concerned is by explaining the laws governing these changes. Time was, and not so very long ago, when we were taught simply that on adding hydrochloric acid to silver nitrate a double decomposition took place, a precipitate of silver chloride was formed, and nitric acid would be found in solution. In the light of the dissociation theory the explanation is that first of all silver chloride is composed of the "cation" Ag and the "anion" Cl. This union of "ions" is an insoluble compound, so that if a white precipitate is produced on adding hydrochloric acid to a soluble silver salt—e.g., silver nitrate—the inference is that the "cation" Ag is present. Conversely, if on adding a soluble silver salt to a solution a white precipitate is obtained the presence of the "anion" Cl is demonstrated. Silver nitrate is thus a reagent for the detection of the "anion" Cl, but silver nitrate is not a reagent for the *element* chlorine, since no precipitate is formed when it is added to potassium chlorate and in this case the solution contains the "anion" ClO_3 and not Cl. In short, in the performance of analysis most reactions in solution are reactions of the ions (cathions, positively charged ions, and anions, negatively charged ions), and in so-called double decomposition it is the ions which react and not the molecules. Herein is the scientific method of presenting the principles of analysis upon which this book is chiefly based. It is a beautiful working hypothesis and the author may be congratulated on the way in which he has succeeded in making clear these principles as applied to practical chemistry; moreover, the translator has accomplished his share of the work most creditably. The publication of such a work bids fair to displace entirely the commonplace text-book of analysis of which there is, or was, no end.

Sewage and the Bacterial Purification of Sewage. By SAMUEL RIDEAL, D.Sc. Lond. Third edition. London: The Sanitary Publishing Company, Limited. 1906. Pp. 355. Price 16*s.*—Nearly seven years ago we recognised in these columns the value of this work, and the call for a third edition endorses the view which we then took that

Dr. Rideal's contribution on the subject would be widely appreciated. The work is essentially practical and a guide alike to the chemist and to the engineer. The student will learn from its pages the *rationale* of modern methods for the disposal of sewage, he will realise what an important rôle micro-organisms play in these methods, he will also understand the relations existing between non-pathogenic and pathogenic organisms, and lastly he may acquire a knowledge of those practical chemical and bacteriological methods of analysis the results of which enable us to judge whether a given process is or is not working efficiently. From time to time the Royal Commission on Sewage Disposal has issued valuable interim reports but its final report which, it may be anticipated, will settle many questions of great importance to local authorities has not yet been issued. Dr. Rideal has taken advantage in the third edition of his book of the further experience which has been gained in regard to the bacterial methods of sewage purification during recent years, and this experience obviously includes the important conclusions of the Royal Commission so far as they have been published. This alone is a valuable feature of the book. It is to be hoped that every facility will soon be afforded to local authorities to enable them to develop methods of sewage disposal along the scientific lines indicated by recent developments. Dr. Rideal may be thanked for keeping his readers in touch with these developments and for the share which he has taken in helping to bring about a desirable consummation.

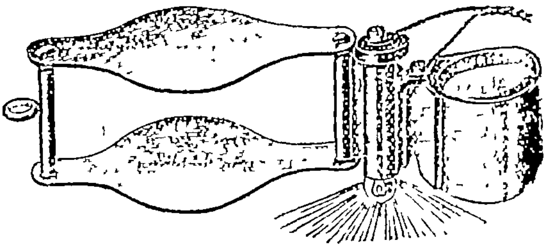
JOURNALS AND MAGAZINES.

The Journal of Nervous and Mental Diseases (April and May).—These numbers contain amongst other matter an interesting article on the Diagnostic Value of Lumbar Puncture in Psychiatry by Dr. J. L. Pomeroy, of Ward's Island, New York City. In making his investigation the method of technique described by Widal and Ravant was followed as closely as possible. In addition to this examination for lymphocytosis Dr. Pomeroy also advises that the albumin test should be made, as a case may show a positive albumin content even before lymphocytosis is discovered. He goes on to say that the usual presence of a large albumin content in general paralysis is of value and he advises caution in interpreting small augmentation of cells without previously examining the amount of albumin. He points out the diagnostic value of lumbar puncture in cases of congenital syphilis in which there is arrested development. On the other hand, he considers that a negative finding in a case with a syphilitic history is almost certain evidence that there is no involvement of the central nervous tissue, and in cases where syphilis of the brain is clinically to be diagnosed a persistent negative lumbar puncture should make the observer look for some other etiological factor. The figures that he gives of the results of spinal puncture in cases of paresis are as follows: in 30 undoubtedly clear cases (clinically), in every instance positive results were obtained and the albumin content showed a marked opalescence in every examination. In all cases the pressure was quite marked, the fluid spurting from the canal. Dr. Pomeroy considers that lymphocytosis is one of the earliest and most constant signs of paresis, and, according to Jaffroy, Marie, and Duflos, it appears before amnesic, ophthalmic, or ataxic symptoms. Further, the importance of repeated puncture is emphasised by Archard who records a case in which the first two punctures were negative, a third showed slight cellular increase, and finally a fourth gave a large number of lymphocytes. In this case an interval of ten days was allowed between each puncture. Dr. Pomeroy also alludes to the value of lumbar puncture in assisting the diagnosis in those difficult cases of chronic alcoholism in which there has been a previous history of syphilis. The article is concluded in the May number of the journal and after giving several more instances of the value of lumbar puncture from the diagnostic standpoint Dr. Pomeroy sums up his results as follows: 1. Lumbar puncture should not be resorted to unless the patient can be put to bed. 2. To be of definite value the procedure must be repeated two or more times at an interval of at least ten days. 3. A constant negative finding is of more value than a positive one, for it rules out the presence of syphilis of the brain and parasyphilitic conditions. 4. In general paralysis the lymphocytosis is a constant and early sign and is usually associated with a heightened albumin content. The same may be said of tabes dorsalis. 5. Lymphocytosis may occur in secondary and tertiary syphilis without clinical evidences of involvement of the nervous system. As a rule the cellular increase in such cases is far less than that observed in paresis and there is very little increase of albumin. 6. In arterio-sclerotic insanity a positive finding points to a syphilitic process, such as softened foci following specific arterial disease. 7. Epilepsy shows negative findings. 8. Alcoholism in all its varieties gives negative results—that is, when apart from syphilitic lesions. 9. A differential diagnosis is to be made between abscess of the brain and meningitis by the presence in the latter of increased cellular material. 10. It cannot be enough emphasised that the lymphocytosis is merely a symptom, and that only after consideration of all other symptoms of the disease should it be used to construe the case.

New Inventions.

AN ACHROMATIC ILLUMINATOR.

THE achromatic lens is often indispensable for examining the cornea, corneal surface, and iris, but the difficulty is that both hands are required to be employed in so doing, one in holding the lens and the other in supporting a focussing lens for condensing the light from a lamp. With the assistance of Mr. Davidson, optician, of 29, Great Portland-street, W., I have been enabled to overcome this difficulty by the introduction of an electric light attachment to the achromatic lens, by which one hand is left free to carry out the necessary manipulations of the lids while the examination is being conducted. The little appliance I have found a pleasure to use. The apparatus consists of an achromatic lens of about half an inch focus fixed in a metal clip, attached to which is the lamp-holder.



The current is controlled by means of a spring, by the pressure of which the light comes into use. The object of this arrangement is to prevent the waste of current when the lamp is not required. The lamp is of four volts and is screwed into the holder; it can therefore be easily replaced when either broken or fused. A dry battery is supplied which will probably last with intermittent use upwards of six months. The appliances can also be fitted with eight and 12-volt lamps for use with various accumulators and even with the ordinary house current by means of special adaptors which Mr. Davidson has designed and introduced. The whole appliance is contained in a small leather-covered box at a moderate cost.

PERCY DUNN, F.R.C.S. Eng.

THE LANCET.

LONDON: SATURDAY, JUNE 22, 1907.

The Royal Society of Medicine.

A MEETING of representatives of the various bodies taking part in the union of the London Medical Societies was held on June 14th, when the Royal Charter was adopted incorporating the 15 societies in question into the Royal Society of Medicine. Following this was the acceptance of a code of by-laws which had been prepared by the committee of representatives, and then the officers and the members of the council were elected. Although the labours of those who have during the past two years been engaged in devising an efficient scheme of amalgamation have not been crowned with complete success, yet they are heartily to be congratulated on having united no less than 8000 Fellows and members into a compact and influential body. A consideration of the history of previous attempts to form in London a corporate society of the medical sciences shows that the committee which undertook this endeavour had to face no light task. Sir WILLIAM S. CHURCH'S account of these attempts when the present scheme was first officially and publicly discussed in 1905 was full and interesting, and while referring our readers to his words[1] we will content ourselves with repeating that in the years 1808, 1850, 1860, 1867, and 1870 efforts were made to form an amalgamation based in every instance on an alliance between the Medical Society of London and the Royal Medical and Chirurgical Society, save in 1850 when the latter body was approached by the Pathological Society for a like purpose. The fruitless issue of all these attempts finds some reflection in the present qualified success, for the Medical Society of London and some other societies unfortunately have elected to remain distinct from the new scientific union. We feel it to be a matter of regret that the doyen of all the London societies has not seen its way to throw in its lot with its brethren, all of whom may be younger but some of whom are quite respectably ancient. However, the Royal Medical and Chirurgical Society having a full warrant to stand as representative for both of the two greater branches of the profession was able to form the foundation-stone of the new edifice, and the debt under which the medical profession is placed to this powerful body is a very great one, for the financial organisation of the new society rests to a great extent on that of its predominant partner. In emphasising this point we do not wish to cast any disparagement on the equally public-spirited action of the other constituent societies which we need not here enumerate; on the contrary, the self-denying ordinance by which they have forfeited their individuality *pro bono publico* must have the sincere commendation of all who have at heart the best interests of the advancement of medical science in England. It is gratifying to know that in the administration of the Royal Society of Medicine as much autonomy will be given to its constituent branches as is compatible with the compact and harmonious working of the whole body—this much is certainly due to the bodies which have undergone a voluntary absorption; although the actual labour involved in the administration of any branch will probably be less than when it had an independent existence, it would be regrettable if the officials responsible for its conduct were to lose that stimulus to a personal interest in its welfare that has been so prominent a feature of the societies as they existed before the amalgamation. It is just this personal touch, this active interest vivifying the many members of the body, that is essential to the due performance of the important functions that are for the mutual advantage of all, and which will prevent the work of so large an organisation from sinking into a level of official routine. Life is essential to progress and there must be a vital activity permeating the whole system if the best results are to spring from it, and these results will be attained by sectional officials, whilst sharing in the corporate interests of the whole society, maintaining their full zeal for the work of their own special branches.

Although, as we have said, the societies as such have made some sacrifice in forfeiting their independence, for their individual members the union should be an unqualified gain. It is not only that they will be admitted to participation in a wider sphere of professional interest for a considerably less total subscription than would have been demanded of them before had they belonged to several of the societies, but the saving in time to them will be a signal advantage amongst the many conveniences that will follow on the gathering of the various societies under one roof. The value of the libraries will increase by amalgamation, and the compactness of administration now possible will save an overlapping of interests in the different sections. But whilst each section will be concerned with its own business chiefly, the great advantage that will accrue to the members generally lies in the additional facilities which they will enjoy for following the proceedings of other branches both personally and by means of the Society's journal; it is above all things in the combination of interests of those branches of medicine that tend each year to become so specialised as to lose touch with medicine as a whole that we confidently predict will be found the chief justification for the institution of the latest of all the Royal Societies and the chief warrant for its success. *Floreat.*

Hospitals and Provident Dispensaries.

A CONFERENCE representative of the provident dispensaries of London was recently held at the residence of Mr. FRANCIS BUXTON, its object being the discussion of possible plans for closer coöperation between provident dispensaries, the hospitals, the medical profession, and the three great hospital funds. The dispensaries represented were Battersea, Blackfriars, Brompton, Chelsea, Deptford, East Dulwich, Greenwich, Hackney, Kennington, Kensal Town, Kilburn, Lewisham, Notting Hill, Paddington, St. John's Wood, Streatham, Tottenham, Wandsworth Common

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[1] THE LANCET, April 15th, 1905, p. 1020.

Wandsworth Medical Aid, Westbourne Park, Western, West Ham, Whitechapel, Woolwich, and the Provident Department of the Metropolitan Hospital. Members of the council of the Metropolitan Provident Medical Association, of which Mr. Buxton is chairman, were also present. The following resolution was adopted on the motion of Sir William Bousfield, seconded by Mr. Harry J. Powell:—

> "That coöperation between all the provident dispensaries of London is desirable, whereby their aims and work may be advanced, reciprocal action between them and hospitals be promoted, and the transference of members from one dispensary to another be made more general."

A provisional committee, consisting of Sir William Bousfield, Mr. Francis Buxton, Sir Edward Brabrook, Mr. Carlton Lambert, Colonel Montefiore, Mr. H. J. Powell, and Dr. W. Winslow Hall, with a representative to be chosen by the Metropolitan Branch of the British Medical Association, was elected to carry out the objects of the resolution and to arrange for the appointment of a consultative council representative of all the provident dispensaries of London.

The provisional committee thus appointed will be engaged upon a work which has the sympathy of all who take interest in the welfare of the sick poor or who appreciate how far the various social and economical difficulties generally classed together under the head of hospital abuse are due to an absolute ignorance upon the part of the public of the proper place which the hospital, the dispensary, the infirmary, and the private surgery are designed to play in the relief of sickness, disease, and accident. There should be no better barrier between hospital out-patient departments and those for whom the services of these departments are not properly intended than the provident dispensary, and the more thoughtful of the medical men who have considered the problem presented by the glut of hospital out-patients regard the development of the dispensary system as the proper remedy for existing troubles. Medical men in the neighbourhoods where provident dispensaries exist know well enough how valuable they are and with what success they supply advice and treatment to just that class of person for whom the hospital out-patient department is not the proper place and who yet cannot be expected to pay ordinary medical fees. In the administration of the provident dispensary there is possible that local and individual discrimination without which charitable work can never be justly and effectively carried out. There is, moreover, in the vast majority of instances that desirable adaptation of means to an end which arises from the free intermingling of medical and lay opinion and endeavour. The field for provident dispensaries properly conducted is a very wide one. The public is taught by the services received at the dispensaries to regard the family practitioner as the first source of help. It is hard for the hospital authorities to prevent overcrowding, to weed out those who are not from those who are the proper recipients of advice and treatment for nothing in the case of illness not serious enough to demand admission to the hospital. The discrimination must come, so to speak, at the other end. The public must be taught that the out-patient department is the poor man's consulting-room, and the poor man's only. Those who are less poor must learn to visit a provident dispensary to which they subscribe or, better still, their own private medical man. Just where to draw the line between the three classes of individuals must always be a difficult matter and one permitting many errors. Almost any arrangement, however, must be better than the chaos which now exists, when the line is drawn nowhere and when the private practitioner sees his patients leaving him for an out-patient department at the doors of which they are deposited by their own horse and carriage. Such a case, though true, is of course an extreme. Yet such extremes are only possible when the existing system admits of very numerous minor flagrancies. Reciprocal action between hospitals and dispensaries, one of the objects aimed at by the provisional committee, may do much to prevent abuses of charity of this description. There is, as our readers are well aware, no problem more difficult of solution in connexion with medical charity than this question of abuse of out-patient departments. Nor, we feel sure, is there any miscarriage of charity which cries out more urgently for reform by reason of its prevalence. The harm which is done by the misuse of out-patient departments is not limited to the appropriation by the comparatively well-to-do of funds subscribed by charitable persons for the use of the extremely poor. It is not merely that the subscribers to hospitals are helping those for whom they did not intend their subscriptions but there is also to be considered the injury to the cause of medical science. What is the use, from the point of view of medical progress, of out-patient departments as they at present exist? What chance is there for genuine scientific work of any kind when physicians and surgeons are dealing with an overwhelming horde that has to be "seen" and treated somehow? The very idea of work of any kind, apart from the most rapid diagnosis, a little teaching, and the promptest treatment, is almost preposterous at the present time in connexion with the out-patient departments of London hospitals.

Several possible remedies suggest themselves for this deplorable condition of affairs. One, at any rate, worthy of all consideration and trial is to be found in thorough coöperation between provident dispensaries and the hospitals of their neighbourhood. For provident dispensaries to take the place, as there is no doubt they ought largely to do, of the out-patient departments of hospitals there may be necessary some increase in their number. In this direction it would be wise, we imagine, to move with extreme caution, for part of the very trouble to be treated arises from the existence of an excessive opportunity for gratuitous medical assistance. It would probably be found, however, that the chief fault in this respect lies not so much in superfluity but in lack of proper distribution. Some localities are undoubtedly over-supplied with medical charity, whilst there are others where the really poor find it hard to obtain the help that the philanthropic would wish to proffer them. Again, if provident dispensaries are to supply the amount of help which we think should be in their hands it will be necessary to standardise their methods to an extent which does not prevail at the present time. Some change of this kind would obviously be included in that part of the resolution which we give at the beginning of this article which refers to the transference of patients from one dispensary to another. In the matter of medical service there would, we anticipate, be no difficulty at all. The dispensary staffs could be enlarged at once, wherever it was thought necessary, by simple request. Medical men have never been found backward in giving their services to charitable institutions. Indeed, a little less generosity in this respect would but help in adjusting the scales. The terms of the resolution, in which it is desired that while the aims and work of the dispensaries may be promoted so also may reciprocal action between them and the hospitals, show that those who moved this resolution are fully alive to the importance of relieving hospital abuse. It could not be maintained for a moment, we think, that there is too little charitable effort in London with regard to the sick poor. Only it is to a large extent misdirected and badly administered. Obviously, then, if the amount of help is not to be increased, and we do not believe it needs increase, and at the same time one kind of help, that by provident dispensaries, is to be extended, retrenchment must be practised in another quarter. That quarter is, as we have sought to indicate, the out-patient departments of hospitals. One of the most recent general hospitals in Greater London, we allude to the Hampstead Hospital, will have an opportunity of leading the way in proper action with regard to this matter. Hampstead owns one or more dispensaries, and some, at any rate, of the local practitioners believe that there is no need for any out-patient department at all to the hospital. We offer no opinion on this particular case but mention Hampstead as one example of the many in which we hope to see beneficial results from the resolution which we quoted above. The *personnel* of the provisional committee gives us good hope that practical steps will be the outcome of its deliberations and an assurance that such steps will be to some extent in the much-needed direction of relieving hospital abuse in out-patient departments.

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Clifford v. Timms; Clifford v. Phillips; Hill v. Clifford.

HOWEVER irksome the law's delays may sometimes be to suitors four and a half months have sufficed to bring to a hearing the appeal against Mr. JUSTICE WARRINGTON'S judgment in the above cases and the result of the appeal has been that which was predicted tentatively in THE LANCET of Feb. 9th. In the circumstances we then confined ourselves to a brief statement of the principal points in his lordship's judgment which struck us as being most open to question, and if we felt confident that the judgment would be reversed we were content with hinting at an opinion which has now been justified. A more full statement of the interesting legal points involved will be found in another column (see p. 1732), but we may note serviceably here some of the main features. Certain partnership deeds entered into by one or the other of two brothers, R. E. CLIFFORD and ISIDORE CLIFFORD, with the three other parties to the litigation contained clauses which provided in similar, if not in identical, terms that "if either partner shall at any time during the continuance of the partnership be guilty of professional misconduct or of any act which is calculated to bring discredit upon or injure the other partner or the partnership business, the other partner shall be at liberty to give notice in writing of his intention to determine the partnership, and the partnership shall be dissolved and wound up under the provision of these presents in the same manner as if the offending partner had died on the day of such notice.' The CLIFFORDS were found guilty of "infamous or disgraceful conduct in a professional sense" by the General Medical Council in the usual way, and under the provisions of the Dentists Act, 1878, were struck off the Dentists Register. The question to be decided by Mr. Justice WARRINGTON arose out of the resolve of the brothers CLIFFORD to dispute the rights of their respective partners to terminate the partnership agreements on the ground that the General Medical Council had found the CLIFFORDS guilty of professional misconduct. Mr. Justice WARRINGTON, in a considered judgment, questioned the admissibility of the General Medical Council's order and of the report of the Dental Committee upon which that order was founded, and, further, drew an ingenious and not wholly comprehensible distinction between "professional misconduct" (the term used by Mr. TIMMS in giving notice to terminate the partnership in his case) and the "infamous or disgraceful conduct in a professional sense," which formed the ground of the removal of the CLIFFORDS from the Dental Register. The Court of Appeal, in dealing with these points, delivered long and exhaustive judgments, but for our present purpose it is sufficient to refer to the words quoted elsewhere of the Master of the Rolls, who held that the order of the General Medical Council was evidence, as a "judgment *in rem*." His lordship further thought that "it was idle for a man who in the language of section 13 of the Act of 1878 has been guilty of 'disgraceful conduct in a professional respect' to contend that he has not been guilty of 'professional misconduct.'"

With these conclusions it would be difficult not to agree, and they dispose of a judgment which, had it been upheld, would have caused a precedent to be established of an extremely inconvenient character and one which put an artificial misconstruction upon more or less plain words used in a matter appertaining to their own profession by men who were not lawyers, with a clear intention to provide against contingencies familiar to them. As it is, in spite of passages in the judgment of the Master of the Rolls which seem to justify the view that removal of the name of one of two medical partners from the register would, *ipso facto*, terminate the partnership, we suggest, as we did in our leading article of Feb. 9th, that any clause in a partnership such as we have quoted above should contain special reference to the possible action of the General Medical Council, as well as such other general descriptions of acts injurious to the partnership business as may be thought desirable. We suggest, in short, that it should be expressly agreed in all cases that the fact of a partner's name ceasing to be upon the Medical or Dental Register should put an end to his partnership *ipso facto* and without any notice being given to him as provided in the cases of the CLIFFORDS.

It is of some interest to note that a peculiar feature in the partnerships which gave rise to the appeal upon which we have commented, or in one of them, was introduced by a proviso that on the death of the partner of the named Clifford his brother was to step into his shoes. Therefore, as the dissolution through unprofessional conduct was to have the same effect as the death of the offending partner, it would also introduce his brother in his place. Clauses capable of producing such possibly inconvenient results require consideration before the deed containing them is signed. Other features peculiar to the cases of the Cliffords, such as the fact that Mr. Phillips, a party in one of them, had entered into partnership with one of the Cliffords without being himself on the Dentists Register, were dealt with in the judgments delivered in the Court of Appeal, but do not affect the question, which was certainly one of interest to the medical and dental professions at large, whether a professional man might be saddled against his will with a partner unable to carry on the business of the partnership, in spite of a clause in the partnership deed obviously drawn with no other intention than to prevent such an occurrence.

Annotations.

"Ne quid nimis."

AN ACT TO MAKE THINGS WHAT THEY SEEM.

Surely the time has come when room should be found in our legislative machinery for an Act which shall be applied to articles other than foods and drugs yet which could be administered in much the same way as is the Sale of Food and Drugs Act. It is brought home to us almost every day that the public is imposed upon not merely in regard to articles of food and drink but in regard also to articles of clothing and other materials. The local authorities, we suggest, should be possessed with powers to apply in a practical manner the provisions of the Merchandise Marks Act or a similar measure. The public is not very adequately protected against such substitutions as cardboard being sold as leather, cotton as wool or silk or flannel, celluloid or bone as ivory, and a host of other things which are not what they seem. The evidence of chemical analysis is hardly wanted in such cases and a staff of analytical chemists would not be indispensable for the administration of such an Act, though it must be admitted that experts, or at least a body of intelligent men, would have to be appointed who could discriminate at a glance the genuine from the false in such cases as are quoted above. We know that there are such men and the various trades concerned know it also and competent inspectors could be drawn from their ranks. The subject is not outside our province, for many such substitutions as we have mentioned are intimately associated with questions of health. The boot, for example, which is not made of leather but is what might aptly be described as a cardboard sandwich—that is to say, contains slices of cardboard inserted in the sole—does not secure that protection against weather which the wearer expects from it. He is not only deceived but his health may be unfavourably affected by wearing boots which fail to guard him from the effects of wet and cold because they are not made entirely of the weather-proof material which good leather is. He might as well look for relief in a belladonna plaster which contains no belladonna. In that case, however, he is protected, or at least means of protection are provided in the shape of the Sale of Food and Drugs Act. Again, health might easily be injured by the wearing of a material loaded with mineral substances, amongst them being, in all likelihood some of a distinctly poisonous or irritating nature. A person is protected against the possibility of poisons getting into, or being used in, his food so far as human efforts can go. For here once more the Sale of Food and Drugs Act exists to operate in the interest of his health and well-being. Then is it unreasonable to demand that he should be protected equally in regard to other things which are essential to his comfort and well-being?

THE CONFLICT OF HEREDITY AND ENVIRONMENT.

A thoughtful paper on the subject of Heredity and Environment Relative to Man was read before the May Chapter of the Guild of St. Luke by Surgeon-Colonel F. H. Welch, F.R.C.S. Eng., in which he traversed a considerable range of ground of an enormous speculative territory, concluding with a brief diversion into the thorny paths of the freewill controversy. His object was to show the vast importance of his subject in its bearing on the general status and the progressive development or retrogression of the individual and the race, and to study the manner in which we may best apply its lessons to the sphere of practical politics. In considering the influence of heredity on the organism he echoes a slight protest against the modern scientific consensus of opinion that so strongly supports the non-inheritance of acquired characteristics, although he carefully avoids dogmatism on either side, a state of mind to which the present condition of physical science may well incline the seeker after truth. He does not consider that in the present state of educational development there are sufficient individual altruism and national conscience to make practicable the proposal to regulate our social ills by a system of compulsory "Eugenics," and, indeed, he repeats the uncomfortable observation that, considering heredity alone, our increased care for the lives of the children of the less favoured classes seems to clash with the method of evolution by natural selection, whilst no artificial selection is yet available to replace it. But a more hopeful note is sounded when he turns to consider environment, and in this he sees the weapon of salvation for the race that evolution of intellect has given us, but he deprecates the national reluctance to wield it vigorously against the dragon of degenerative tendencies. In pointing out the enormous control that environment can have over hereditary tendencies, he instances the astonishing work of Robert Owen for 26 years in New Lanark. That philanthropist at the beginning of the last century grasped this principle of improvement and thereby redeemed from utter social degradation a community of 2500 persons, without recourse in any case to legal punishment; like excellent results of attention to environment may be seen in the Barnardo homes to-day, and the educated portion of the community may well put to itself Surgeon-Colonel Welch's trenchant questions on the side of environment, as to what means commensurate to the needs are in operation to curtail the deteriorating influence of town life with its overcrowding on the physique and stamina of our urban population; to give through a sufficiency of decent room-accommodation the chance of the growth of modesty and continence among the young of both sexes; to abolish the superadded temptations to incontinence through the facilities from open solicitation in the streets; to provide institutes and wholesome recreation for men and boys and girls as counterpoise to the poor home, the beershop, and the vicious teachings of the streets; to train up our rising youth and adults to a sense of patriotism and of what duty demands towards preparing themselves to defend their country and homes against outside aggressors; and to foster the religious sentiment by agencies and ways sufficient in amount and right in character. We are in accordance with the author of these words in his contention that it is the paramount duty of the race to search out by all means and to apply in every way the right methods of improving the environment of its units, for if we are to sit down impotently under the incubus of heredity and submit as did the doomed Greek family to its Ate, then, indeed, must we consider the purpose of existence to be in vain. It is in the control of heredity by self-planned environment that the true freedom of man will surely stand manifest.

WEIGERT'S LIFE AND WORK.

AN interesting biographical sketch of the life and work of Carl Weigert has recently been published in Germany by Professor Robert Rieder[1] of Bonn. The great contributions made by Weigert to pathological anatomy and histology, to general pathology, bacteriology, neurology, and to the technique of microscopical methods are considered in detail, while the influence which he exerted upon the medical sciences is carefully outlined. Professor Rieder shows a genuine affection and a profound admiration for the subject of his sketch and presents in comparatively few but well-chosen words an attractive picture of the personality of Weigert whose single-minded devotion to science, untiring persistence in perfecting the methods which he introduced, and striking originality combined to render him one of the greatest investigators of his time. These brilliant gifts were associated with a nature of almost childlike simplicity but at once so pleasing and loveable that Weigert possessed countless friends and admirers. Weigert was born in Silesia in 1845 of Jewish parentage and after his student career was completed acted as assistant to Waldeyer in Breslau from 1868 to 1870, leaving to serve as an army surgeon in the Franco-Prussian war. On his return to civil life he was assistant to Lebert from 1871 to 1873, becoming assistant to Cohnheim in Breslau in the following year. In 1878 he went with Cohnheim to Leipzig and became extraordinary professor of pathological anatomy. After the death of Cohnheim in 1884 Weigert resigned this post and spent the rest of his life at the Senckenburg Institute at Frankfort-on-the-Main, of which he was director. Professor Rieder is righteously indignant that Weigert never received a "call" to the professorship at any of the great universities and asks if pathological anatomists of his calibre were so plentiful in Germany that there was no room for him; but we may agree with Professor Rieder that science was the gainer by this, for Weigert's great energies were free to be devoted to research and to the instruction of those who visited his laboratory, comprising representatives from almost every civilised nation. His work was so peculiarly his own, so truly scientific, that it may be doubted whether, even in his own country, the great significance and value of his work are even yet fully recognised, for his papers were mostly published in scientific journals or transactions, were often highly technical, and were the outcome in many cases of years of persistent labour. His method for staining the white substance of the nerve fibres represented three years' diligent work, while he studied his neuroglia method for 17 years before he published his results, in spite of the earnest advice of well-meaning friends that he should record some of his observations. This singular pertinacity and whole-hearted devotion appear to have been strikingly characteristic of the man. His fame might, perhaps, have been more public if he had published a text-book, but as he was wont half jestingly to say, "They are too full of other people's wisdom." Weigert was essentially an investigator, as a study of the list of 97 papers published by him shows. His work was too comprehensive in its scope to admit of more than passing reference here, but it may be remembered that, in addition to his extensive researches on histological subjects, he was the first to apply differential staining methods to bacteria and to stain them in sections of hardened tissues, while Koch has borne testimony to the assistance afforded to him in his researches by Weigert's discoveries. Among other pathological studies we may also refer to those on the eruption of small-pox, the exudate of diphtheria, the process of coagulation necrosis, the phenomena of inflammation, and the primary tissue degenerations. Appended to this biographical sketch are two short appreciations, one by Professor Edinger on Weigert's services to neurology, in which the state of histological research in regard to the nervous system before the introduction of the methods of Weigert is described, and another by Professor Paul Ehrlich on Weigert's contributions to histological science, which concludes with the striking tribute, "He has yielded us not only methods but a system." Professor Rieder's book affords an interesting character sketch of a great personality as well as a valuable summary of his contributions to science and the book should be read with great profit by all who are interested in the advances made in medical science in the nineteenth century.

THE ANTIGONE AT BRADFIELD COLLEGE.

DURING the last two weeks the triennial Greek play has been performed in the beautiful model theatre built 17 years ago in the chalk-pit at Bradfield College. It hardly falls within the function of a medical journal to offer a detailed criticism on either the acting or the significance of the Antigone although the clashing of interests of the individual and the State is not without parallel in the experiences of modern medicine. From a medical point of view the acting of Mr F. R. Barry as Teiresias was conspicuous, as he really did convey the effect of being blind as well as of being a very disagreeable old gentleman, whilst Haemon made a most realistic "corpse," far more so than that of the ill-starred queen. The acting of Mr. C. R. Eddison as Antigone, Mr. A. G. R. Garrod in the exacting part of Creon, and Mr. G. R. Hamilton as First Messenger was extraordinarily good and their enunciation would have done credit to a London stage. Creon shone most in his spirited quarrel scenes, and Antigone found a representative who gave full value to the dignity and sweetness of a character only matched by our Shakespeare's heroines. The choric dancing and chanting were always interesting, and the orchestra with ancient "flutes" and lyres contributed much to the success of the play. The talent displayed by the Warden in taking the part of the Coryphaeus at a day's notice was very noteworthy, his statuesque poses giving a truly Greek stamp to a dramatically effective rendering of the part. An English verse translation of the play by the sixth form contained many strong passages. The arrangements for the transport and refreshment of the guests were as perfectly organised as they could be and enhanced the enjoyment of a memorable production.

BRASS-FOUNDERS' AGUE.

THE inhalation of fumes arising during the casting of brass was known many years ago to produce a disease called brass-founders' ague. The question was debated for a long time as to whether the injurious agent was copper or zinc, but it appears to be concluded now that zinc is the chief factor. Moreover, zinc oxide is much more readily volatilised than is copper oxide. The symptoms are described as tightness and oppression of the chest with indefinite nervous sensations followed by shivering and profuse sweating. The

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[1] Carl Weigert und seine Bedeutung für die Medizinische Wissenschaft unserer Zeit. Eine biographische Skizze von Dr. Robert Rieder. Berlin. Julius Springer. 1906. Pp. 141. Price 3 marks. (Carl Weigert and his Influence on the Medical Science of Our Times, a Biographical Sketch by Dr. Robert Rieder.)

Home Office has recently issued a circular in which it is pointed out that certain regulations should be observed in connexion with brass-founding. Thus it is proposed that the pouring of brass should be prohibited unless there be (*a*) an efficient exhaust draught for the removal of the fumes at, or as near as possible to, the point of origin, and (*b*) efficient arrangements to prevent the fumes from entering any room or factory in which work is carried on, and (*c*) free openings to the outside air in the upper part of the room. Provisions are also laid down for the maintenance of a lavatory supplied with warm water, soap, nail brushes, and so forth. Females are not allowed to work in any process whatever in which the pouring of brass is carried on. The regulations have been prepared after careful inquiries, extending over a period of several years, into the condition of the industry and the working of special rules, with the result that it has been shown that these rules do not adequately provide for the protection of the workers and that further precautions are necessary. As will be seen, the most important proposal in the regulations is the requirement of efficient means to remove the fumes which are the chief source of injury to the health of those engaged in the casting shops. A system of exhaust ventilation is therefore indicated and demanded. The regulations just issued are subject to further consideration and objections may be lodged by occupiers or the workpeople themselves with the Secretary of State within 40 days from the date of the circular, which is June 14th.

"INFANT CONSULTATIONS" AT THE ST. MARYLEBONE GENERAL DISPENSARY.

WE have received the report of the first year's working of the new scheme for preserving infant life which is on trial at the St. Marylebone General Dispensary. During the 12 months which are covered by this report 98 babies were taken to the "consultations" and of this number 58 attended regularly, 21 irregularly, and 19 were taken only once for examination. The progress of the babies who attended regularly is stated in the report to have been highly satisfactory in 16 cases, satisfactory in 30, and unsatisfactory in 12. Only two deaths have been recorded during the year, a result which may be considered extremely good in view of the fact that the greater proportion of the infants sent to the "consultations" were the difficult or intractable cases met with by the health visitors of the St. Marylebone Health Society in the course of its work. The report further states that "up to the present the experience gained at the 'consultations' shows that with careful instruction and subsequent supervision there is no pressing necessity to provide free allowances of sterilised milk or of milk otherwise prepared. It is found that other than breast-fed cases do excellently when the mothers are left to obtain the milk through the ordinary commercial channels." From an educational standpoint and on sociological and economic grounds this may be considered an improvement on methods which depend on the principle of free distribution, for such methods offer a premium on bottle-feeding and tend to diminish the parental sense of responsibility. We are asked to give notice that a public meeting will be held in connexion with the above scheme on July 2nd at the Portman Rooms, Baker-street, W., at 4 o'clock. At this meeting the chair will be taken by Lord Robert Cecil who is promoting a Bill in Parliament for the Early Notification of Births and who takes a great interest in all measures which aim at checking infant mortality. The prizes which have been offered by various individuals interested in the scheme will be distributed by the Duchess of Sutherland among the mothers who have successfully carried out the instructions given at the "consultations." Addresses will be delivered by Lord Robert Cecil, by the Duchess of Sutherland, and by others interested in the work of the dispensary and of the Health Society. The infants who have secured prizes or certificates will be on view in a separate room. Admission to the meeting is by invitation, or by tickets, 10*s*., 5*s*., and 2*s*. 6*d*., which can be obtained by application to the secretary of the Dispensary, 77, Welbeck-street, W. The proceeds resulting from the sale of tickets are to be devoted to the furtherance of the scheme.

STENOSIS OF THE TRACHEA DUE TO HYPERTROPHY OF THE THYMUS.

CASES of sudden death with symptoms of asphyxia in infants associated with hypertrophy of the thymus have long been recognised. But considerable doubt exists as to their pathology. According to some the enlarged thymus acts mechanically either by direct pressure on the air passages, by interference with the vagus nerves, or by exciting reflexly spasm of the glottis. According to others the enlarged thymus is merely an index of a general lymphatic dyscrasia which entails feebleness. However, there seems to be no doubt that in some of the cases there was distinct pressure on the air passages. In the *Journal of the American Medical Association* of May 25th Dr. C. Jackson has recorded a case in which such pressure certainly existed and which derives additional interest from the fact that it is the only case in which the existence of the pressure has been demonstrated during life. A boy, aged four years, was admitted into hospital on August 30th, 1906. He had always been well until six weeks before, when he awoke at night with an attack of "croup." Since that time he suffered from increasing dyspnœa. On examination there was considerable expiratory dyspnœa which was worse when he sat erect. The colour and general appearance were good and there were no signs of the "lymphatic constitution." Over the sternum there were a tympanitic note, increased vocal resonance, tracheal breathing, and a whistling tracheal rhonchus. Dr. Jackson was asked to examine the case and finding the larynx free from obstruction suspected that there was a foreign body in the trachea and ordered a radiograph to be taken. This showed the shadow of an enlarged thymus gland. On Sept. 5th he opened the trachea under infiltration anæsthesia. The rings seemed of normal resiliency and the thymus was seen to extend abnormally high in the neck, reaching to the thyroid and rising when the patient coughed. On passing a bronchoscope he discovered a scabbard-shaped trachea extending from the second to the fourth ribs with a chink of not over two millimetres on inspiration and one millimetre on expiration. The passage of the bronchoscope instantly relieved the dyspnœa. When the bronchoscope was withdrawn no air entered and asphyxia was threatened. A long cannula was therefore inserted, giving partial relief. From measurements taken a very long tracheotomy cannula extending to within one centimetre of the bifurcation of the trachea was made. It gave complete relief and was worn for four weeks. On the following day there was profuse discharge from the tracheotomy wound and numerous large moist râles were heard all over the lungs; they diminished in a few days. On Oct. 2nd a second operation was performed. On removing the cannula the trachea completely collapsed. The tracheoscope showed mild tracheitis. The cannula was re-inserted. A curved transverse incision was made below the upper border of the sternum to avoid the tracheal wound and carried down to the thymus gland, the sternal attachments of both sterno-mastoids being divided. When the child coughed the thymus bulged into the wound. The finger was passed down into the mediastinum. Numerous fine adhesions to the sternum were broken down. The thymus was drawn up with forceps until its tip projected from the wound. Several fibrous attachments were ligatured and the thymus was removed. The sterno-mastoid tendons and the wound in the skin were sutured. The child stood the operation very well. The tracheal cannula was removed on the eighth day after operation. There was never the slightest stridor after the thymectomy and no ill-effect seemed to have been produced on the blood or nutrition. Microscopic examination of the thymus showed only simple hypertrophy. This is the seventh case on record of cure by thymectomy of "thymic asthma," or, more correctly, thymic tracheo-stenosis. In performing tracheotomy for its relief a long cannula, which will reach below the obstruction, is necessary. The want of this seems to have been the cause of death in some of the cases.

A DANGEROUS DRY HAIRWASH.

HAIRDRESSERS seem to be at their wits' end to devise an effectual yet safe dry wash for the hair. The chief object of such a wash is, of course, to remove grease and therefore dirt, but unfortunately the best solvents for grease are as a rule volatile and inflammable. Light petroleum spirit appeared at first to be excellent for the purpose until some serious accidents occurred in which somehow or other the spirit was ignited with results disastrous to the hair in some cases and in others to the person also. We have had occasion before to refer to the dangers of employing exceedingly inflammable and volatile liquids such as benzene and petrol as dry hairwashes. If they are used at all the cleansing process should be conducted without risking the slightest chance of the vapour catching fire—in a place, in short, where there is no flame. Even the electric light does not confer immunity from an accident, since any small sparking that may happen at the points of contact at the switch or the lamp is sufficient to start an explosion of air and inflammable vapour. Convinced apparently of the dangers attending the use of liquids which give off inflammable vapours, some of the hairdressing trade have evidently been induced to give them up in favour of a less volatile and practically non-inflammable yet grease-extracting liquid—namely, carbon tetrachloride. It is not surprising to find that the barber is absolutely ignorant of the nature and properties of this chemical substance, and most people would ask, "What is it?" Used largely as a solvent for grease, wax, and rubber in certain technical trades, carbon tetrachloride so far is little known to the ordinary person and certainly less known than is chloroform, to which it is intimately related. As a matter of fact, carbon tetrachloride is just as much an anæsthetic as is chloroform. It is not quite so powerful perhaps, because it is less volatile and its boiling point is higher. But that it may produce anæsthesia sufficiently to develop alarming results is evident from the case which we record this week. This fluid was being used after the manner of an ordinary dry hairwash. Almost at the moment of its application the customer, a lady, cried out that it was far too strong, but the operator replied that it would soon pass off. In the words of our contributor, "her next recollection was that of finding herself propped up on the floor, a wet towel round her head, the window wide open, and a very frightened hairdresser fanning her vigorously with a towel. She was informed that she had been unconscious for five minutes and had been a very nasty colour." She said that she felt just as though she had been taking chloroform and suffered from sickness for some time afterwards. We should have thought that the judicious use of soap and ammonia water followed by rinsing with weak spirit would serve as an effectual wash for the head with long hair which would afterwards dry reasonably quickly. Ladies, however, evidently regard this method as much too slow compared with the rapidly drying but highly inflammable petroleum, and so they run serious risks rather than exhibit a little patience. In passing, it is interesting to observe that most of, if not all, the fluids the vapour of which produces anæsthesia when inhaled are solvents of fat. Ether, chloroform, ethyl chloride, benzene, and light petroleum serve as instances, and apart from the intense inflammability of some of them they should never be countenanced as safe agents in the hands of the hairdresser.

THE CARE OF TUBERCULOUS CHILDREN.

THE needs of tuberculous children have been sadly neglected in this country. Some doubt seems to be arising as to whether open-air treatment for the adult, although offering the best means for dealing with tuberculosis in the working man and woman, is that specific which early enthusiasts proclaimed it to be. We are beginning to understand that medically, as well as economically, it is wisest to begin at the beginning. Greater attention must be devoted to the protection of tuberculously disposed children. The committee of the Children's Home and Orphanage, the headquarters of which are at Bonner-road, London, N.E., with branches throughout the country and in Canada, and caring for nearly 1800 children, finds that something like 25 per cent. of its little folk are predisposed by heredity to tuberculosis. It has, therefore, determined to establish a sanatorium in a suitable country district near London for these cases. Dr. T. N. Kelynack, the editor of the *British Journal of Tuberculosis*, has accepted the invitation to act as honorary physician and medical adviser, and full particulars may be obtained from the principal, Dr. A. E. Gregory, at the London Branch Children's Home and Orphanage, Bonner-road, N.E. We are informed that the forthcoming issue of the *British Journal of Tuberculosis* will contain articles by British, American, and German experts on the tuberculosis problem as it affects infancy and childhood.

MSS. OF JOHN HUNTER'S LECTURES.

IT has been suggested to us that the title of an annotation in a recent number of THE LANCET ("Original Notes of John Hunter's Lectures") might convey the impression that a unique discovery had been made. This is not the case of course. The manuscript, which has just been presented to the Royal College of Surgeons of England by a medical man of long standing, who thus generously commemorates his jubilee as a Member, has long been known in the College library in the form of one of those exquisitely written transcripts for which Clift, the conservator, was justly noted in his day. This transcript was made by William Clift in 1835, and on returning the original to Dr. T. J. Walker's predecessor in his Peterborough practice he apologises in an extant letter for having kept the book for eight long years. Clift was a leisurely and faithful transcriber of all that concerned his great master John Hunter and his transcripts were often made at rather late hours. More than one ends with some such note as "finished this copy at 2 A.M.," usually in mid-winter. There are a number of volumes of notes of John Hunter's lectures on surgery in the library of the Royal College of Surgeons of England. The best known is the quarto four-volume MS., dating from 1786, which was reprinted by Palmer in his classical edition of John Hunter's works. More recently Sir John Tweedy has presented a fine MS., containing a note by Clift to the following effect: "Mr. Eyles's copy of Dr. Joseph Adams's account of Mr. Hunter's lectures on the Principles of Surgery. No date. Lent to me June 4th, 1827, to compare with Mr. Twigge's and Mr. Pearce's copy." Another MS. of "Lectures on the Principles of Surgery," in an unknown hand, was bought at a sale at Sotheby's in May, 1904, where it was "knocked down," with other interesting MSS. in a bundle, for 1s.! Scientific and medical men were evidently absent from this sale. We are reminded in this connexion of Mr. Blades's story of finding a black-letter Caxton, which in the auction-room would have fetched many hundreds of pounds, in a region that cannot be named in polite society. The people of the farmhouse where he was staying had been steadily working through several volumes of these priceless incunabula. On the corner of the mill-board cover of the Hunter MS. last discussed are the words "Jno. Hunter," but it is impossible to say who wrote them.

EPIDEMIC CEREBRO-SPINAL FEVER.

IN London during the month of May there were 21 cases notified as cerebro-spinal fever, five of them belonging to Lambeth and two each to St. Pancras, Poplar, Bermondsey, Battersea, and Deptford. During the same period seven deaths from the disease were recorded—namely, four in Lambeth and one each in Fulham, Bermondsey, and Deptford. In Scotland during the week ended June 15th there were 14 deaths from this cause registered in Glasgow, seven in Edinburgh, and two in Leith. In Glasgow the weekly report issued on June 14th showed that there were at that time 98 cases under treatment. In Belfast during the week ended June 15th there were 15 deaths registered as being due to this cause.

THE DIAGNOSIS OF DILATATION OF THE DUODENUM.

RECENTLY attention has been drawn to dilatation of the duodenum by the observation of surgeons during operations. Ochsner has pointed out the existence of a duodenal sphincter and many writers have shown that dilatation may result from obstruction due to traction of the root of the mesentery over the lower end of the duodenum in conditions of enteroptosis. In the *Boston Medical and Surgical Journal* of May 9th, Dr. A. Christian has reported the following case. A man, aged 70 years, was admitted into hospital on Dec. 31st, 1903, complaining of pain in the stomach after eating, occasional vomiting, and constipation. The abdomen was flaccid and not tender. Pressure on the epigastrium and left hypochondrium caused eructations of gas. Under gastric lavage and cathartics improvement took place. In one month ten pounds were gained in weight. Before the patient's discharge on Feb. 1st, 1904, inflation showed that the lower border of the stomach was three cubic centimetres below the umbilicus. The patient remained well until June, when the symptoms recurred. He improved again but was readmitted in March, 1905. An attempt to inflate his stomach by means of a seidlitz powder was unsuccessful. A stomach tube was passed and 115 ounces of water were put in. Of this only 48 ounces could be recovered. On a subsequent occasion with the patient sitting up the lower border of gastric resonance was found to be 13 centimetres below the costal margin in the left mamillary line and two centimetres below the umbilicus and to reach the right costal margin at a point six centimetres to the right of the median line. Further to the right there was an area of tympany, the lower border of which could not be well defined. By means of the stomach tube 93 ounces of water were introduced and the lower border of the tympany was raised two centimetres on the left, and the area of tympany on the right disappeared. Only 67 ounces of water could be recovered. The lower border of tympany was now 17 centimetres below the costal margin on the left and six centimetres below the xiphoid. Inflation with air lowered the line of tympany four and a half centimetres. A tentative diagnosis of hour-glass stomach or dilated stomach and duodenum was made. On April 21st, 1905, gastro-enterostomy was performed. The stomach was found enormously dilated but there was no pyloric obstruction. The patient stood the operation badly and died in the evening. The necropsy showed dilatation of the stomach and duodenum. The latter was 12 centimetres in circumference. There were also chronic adhesive pericarditis, hypertrophy, and dilatation of the heart, and chronic nephritis. This case shows the possibility of determining by the use of the stomach pump tube the existence of two pouches so connected by a patulous opening that both can be filled with water which can be syphoned back from only one. Such a condition would occur both in hour-glass stomach and in duodenal dilatation with pyloric relaxation. In the latter condition the second pouch would be well to the right side, as in the case described above

HAIRS AND BRISTLES AND ANTHRAX.

THE Secretary of State for the Home Department issued a circular letter in May last year which inclosed a copy of a report on the incidence of anthrax in the manipulation of horsehair and bristles. The proposals contained in the circular have since received the consideration of a number of manufacturers and others interested in the industry. It is now suggested that all horsehair from China, Siberia, or Russia (with the exception of white or light-grey hair which might suffer damage in the process) should be disinfected before undergoing any process other than those of opening or sorting. It is recommended that arrangements should be made, at least as regards a large proportion of the material, for its disinfection by, or on behalf of, the importers before distribution to the manufacturers. If this procedure were adopted it would diminish the regulations applying to the factory or workshop. In view of the small proportion of cases that can be traced to the use of bristles it has been decided tentatively to exclude bristles from the scope of the regulations, but the hope is expressed that the installation of disinfecting apparatus may lead manufacturers to adopt the practice of the disinfection of the undressed bristles known in the trade as "riflings" and so to render the manipulation of such material free from risk. That regulations in this trade are desirable is emphasised by the fact that between Jan. 1st, 1906, and March 31st, 1907—the period since the figures referred to in the report were made up—17 cases of anthrax, including six deaths, occurred in connexion with horsehair and bristles. The regulations proposed are to receive further consideration and any communication in regard to them is to be sent in to the Home Office not later than July 7th.

THE MILK QUESTION IN NEW YORK.

AT a meeting of the Medical Association of the Greater City of New York an instructive debate on the various questions of milk-supply has recently taken place in New York. An interesting part of this debate related to municipal and State regulations, in which connexion an admirable paper was presented by Dr. W. Goler, health officer of Rochester, New York, who is a recognised authority on the subject. He said that however practical in their labours the men engaged in the storing and distribution of milk might be they could not be scientifically trained either in the housing and feeding of cattle or in handling and transporting milk. To insure a safe milk-supply to a city Dr. Goler considered that a sufficient number of inspectors was necessary to inspect really and not merely to report. They should collect monthly samples for bacteriological and chemical examination from the farms, and at least a sample from each shop offering milk for sale should be similarly examined every three months. There should be a daily inspection of the incoming milk at each railroad station for (1) condition of and housing of cans and bottles in shipment; (2) condition of pty cans reshipped; (3) temperature of milk; and (4) spection of railroad samples to guard the retailers against and on the part of the wholesale dealers. "And the untry part of the work," remarked the speaker, "is even greater importance than the city part. The rritory from which a city draws its milk-supply must be apped out, the situation of the dairies ascertained, the roads amined, the railroad facilities noted, and the routes laid ut, so that every farm which sent milk to the city may be bjected to systematic inspection every month." Dr. E. B. orhees of New Brunswick, New Jersey, a director of he New Jersey Agricultural Experiment Stations, dealing ith the same question of systematic State control, ointed out that the State should also make such regu-ations for the retailer as should guarantee proper are in transporting and storing of the milk and its istribution as well as the requisite cleansing and return f the vessels in which the milk had been trans-orted. In the articles upon the railway transport of milk o London recently published in The Lancet stress was aid upon the absence of proper facilities for bringing milk o London by rail in a speedy and cleanly manner. The ubject is an enormously important one and seems to be iscussed more seriously and to be tackled more ener-getically in America than in England, though the enormous istances to be traversed by American trains should make organisation more difficult.

THE TEACHING OF HYGIENE AND TEMPERANCE IN SCHOOLS.

The question of imparting systematic instruction in the principles of hygiene and temperance to school children has during the past year been occupying the careful attention of many prominent members of the medical profession and others interested in the health of the nation. We published in November last an account of the proceedings of the deputation to Mr. Birrell advocating the teaching of hygiene and temperance in elementary schools, and urging that not only should these subjects be specifically introduced into the curriculum of the code but that facilities for special training in them should be afforded to school teachers and that they should be reported on by His Majesty's inspectors. The deputation met with a courteous and sympathetic response in which Mr. Birrell suggested that the introduction of these subjects into the science curriculum should be gradually accomplished and that the training of the teachers was the most important step to be taken. The public interest thus aroused in the matter has recently found expression in a petition to Mr. McKenna, signed by nearly 200 Members of Parliament, supporting similar objects. As we reported in our last issue, Lord Strathcona headed a deputation to the President of the Board of Education on June 6th again urging this matter on his attention and suggesting the establishment of a medical bureau in the Education Department, to which Mr. McKenna replied that until the Bill which contained provisions dealing with the medical inspection of school children had become law he could not declare the settled policy of the Board of Education on the subject. A strong local reflection of the central interest that has been taken in this matter is shown in the report for 1906 made by Dr. Alfred Greenwood to the education committee of Blackburn, of which he is the medical officer. During the year evening classes on school hygiene were given to school teachers, based on a syllabus that is printed in the report, which summarises a course of 25 lectures and to which the attention of other local educational authorities may be given with advantage. As a result of the Blackburn lectures eight school teachers from that town passed in one or both parts of the examination in hygiene in its bearing on school life conducted by the Royal Sanitary Institution, and the committee has decided to ask all future applicants for teachers' posts whether they have any similar qualification in school hygiene. Dr. Greenwood states in his report that the importance of teaching hygiene is not yet appreciated sufficiently and we trust that the vigorous attempt to grapple with it made in Blackburn will stir up other towns to follow its example.

The medals and prizes gained by the successful students at Guy's Hospital will be distributed by Sir A. W. Rücker, F.R.S., the Principal of the University of London, on July 4th, when a garden party will be held at 3.15 P.M. Academic costume will be worn on the occasion. The laboratories, museums, college, the Henriette Raphael Nurses' Home, and the wards will be open to inspection from 3 to 5.30 P.M.

The medical officer of health of the Cape Colony reports that during the week ending May 18th no case of plague in man was discovered, but two cases discovered during the preceding week remained under treatment. On May 24th a case of plague was discovered in a European female who was removed to the local plague hospital, so during the week ending May 25th three cases were under treatment.

The Local Government Board has established new premises for the preparation and distribution of glycerinated calf lymph for the use of public vaccinators and has notified that all applications for calf lymph should now be addressed to the Government Lymph Establishment, Colindale Avenue, The Hyde, N.W.

The first general meeting of the medical and surgical sections of the Royal Society of Medicine will be held at 20, Hanover-square, London, W., on Monday, June 24th, at 5.30 P.M., for the purpose of electing officers and council and transacting other necessary business.

The death is announced of Dr. Julius Dreschfeld, consulting physician to the Manchester Royal Infirmary, and for many years professor of medicine at the Owens College. We hope to publish an extended notice of his career in a future issue.

Dr. R. Welsh Branthwaite, His Majesty's inspector under the Inebriates Act, will deliver the second Norman Kerr memorial lecture, under the auspices of the Society for the Study of Inebriety, on the evening of Tuesday, Oct. 8th.

The first meeting of the Society of Tropical Medicine and Hygiene will be held at 20, Hanover-square, London, W., on Wednesday, June 26th, at 8.30 P.M. An address will be delivered by the President, Sir Patrick Manson.

Mr. H. Rider Haggard, J.P., will distribute the prizes to the successful students at St. Thomas's Hospital in the Governors' Hall on Wednesday, June 26th, at 3 P.M.

The annual meeting of the general committee of the Imperial Cancer Research Fund will be held at Marlborough House on Monday, July 1st.

Water-Supply of Paignton.—A Local Government Board inquiry was recently held at Paignton, Devonshire, into the application of the Paignton urban district council to borrow £12,861 for the distribution of the new water-supply in the town. This is in addition to the £111,000 for which borrowing powers have already been obtained.

METROPOLITAN HOSPITAL SUNDAY FUND.

The following are some of the principal amounts received at the Mansion House, or notified directly to us as having been collected, on behalf of the Metropolitan Hospital Sunday Fund up to Tuesday evening last, when the sum paid in exceeded £23,500. It seems doubtful at present whether the result of the collections in the churches will be equal to that of last year. The incumbent of a well-known West-End church, in deploring the decreasing contributions from his church, attributes the falling-off to the "week-end" *habit; and in this connexion we hear of a suburban golf* links where the "whip-round" amongst the golfers had the result of realising more than the collection in the neighbouring church :—

	£	s.	d.
St. Michael's, Chester-square	1262	0	0
Charles Morrison, Esq.	500	0	0
William Herring, Esq.	500	0	0
St. Mary's, Bryanston-square	400	0	0
St. Paul's Cathedral	384	0	0
All Saints, Ennismore-gardens	338	0	0
St. Nicholas's, Chislehurst	286	0	0
St. James's, Piccadilly	262	0	0
Union Chapel, Islington	212	0	0
Messrs. Watts and Co.	210	0	0
A. G. P.	200	0	0
Delta	200	0	0
Holy Trinity, Tulse Hill, and *Mission*	188	0	0
Christ Church, Chislehurst	142	0	0
Aldenham Parish Church and Chapel	142	0	0
Emmanuel Church, Wimbledon	141	0	0
Bickley Parish Church	130	0	0
St. John the Evangelist, Penge	123	0	0
Temple Church	121	0	0
Bromley (Kent) Parish Church	121	0	0
St. Bartholomew's, Sydenham	115	0	0
Holy Trinity, Sydenham	115	0	0
St. Matthew's, Bayswater	105	0	0
St. Mary's, Kilburn	104	0	0
St. John's, Southwick-crescent	103	0	0
Brixton Independent Church	101	0	0
St. Andrew's, Leytonstone	100	0	0
A few Members of the Theistic Church (per Rev. C. Voysey)	100	0	0
St. Mary Boltons	100	0	0
Mrs. Jowers	100	0	0
F. G. D.	100	0	0
Alex. Miller, Esq.	100	0	0
Mr. and Mrs. C. E. Layton	100	0	0
W. D. Graham-Menzies, Esq.	100	0	0
St. Martin's-in-the-Fields	97	0	0
St. Mark's, Reigate	94	0	0
St. Paul's, Westbourne-grove	93	0	0
St. Mary's, *Shortlands*	93	0	0
St. Peter's, Bayswater	91	0	0
St. Anne's, Soho	90	0	0
Christ Church, Mayfair	89	0	0
Greek Church, Bayswater	87	0	0
Church of the Annunciation, *Chislehurst*	85	0	0
St. Andrew's Presbyterian Church, Frognal	85	0	0
St. Alban's, Streatham-park	85	0	0
St. Anne's, Wandsworth	80	0	0
St. John's Presbyterian, Kensington	80	0	0
St. John's, Putney	79	0	0
Oratory, South Kensington	78	0	0
Regent-square Presbyterian Church	78	0	0
St. James's, Kidbrook	77	0	0
Kensington Congregational Church	75	0	0
St. Michael's, Blackheath	75	0	0
St. James's, *Muswell Hill*	70	0	0
St. Luke's, Hampstead	70	0	0
Beckenham *Parish Church*	65	0	0
Holy Trinity, Upper Tooting	65	0	0
Weybridge Parish Church	64	0	0
St. George's, Perry Hill	60	0	0
Lemsford Parish Church	60	0	0
St. Saviour's, *Paddington*	60	0	0
Church of the *Immaculate* Conception, Farm-street ...	58	0	0
St. Paul's, Upper Norwood	57	0	0
Christ Church, Newgate-street	56	0	0
Christ Church, Brondesbury	66	0	0
Trinity Church, Hampstead	65	0	0
Church of the Ascension, *Blackheath*	65	0	0
Hornsey Parish Church	55	0	0
St. Mary's Parish Church, Stoke Newington	65	0	0
St. Luke's, Redcliffe-square	63	0	0
Carmelite Church, Kensington	63	0	0
St. James's, Hatcham	53	0	0
Messrs. J. H. Vavasseur and Co.	52	0	0
St. Magnus the Martyr, London Bridge	52	0	0
Clapham Parish Church	52	0	0
St. Paul's, Winchmore Hill	51	0	0
St. Stephen's, Ealing	51	0	0
St. Mark's, *Marylebone-road*	51	0	0
St. Andrew's, Stockwell	50	0	0
St. John's, Redhill	50	0	0
F. Fleischmann, Esq.	50	0	0
Miss M. E. Druce	50	0	0
St. John the Baptist and All Saints, Epping	49	0	0
St. George's, Bloomsbury	49	0	0
Brixton Parish Church	48	0	0
Dulwich College Chapel	46	0	0
St. Paul's, Camden-square	45	0	0
St. John's, *Sidcup*	45	0	0
Guards Chapel, Wellington Barracks	44	0	0
St. Mark's, Surbiton	44	0	0
Central Hill Baptist Church, *Norwood*	44	0	0
Hendon Parish Church and Chapel	43	0	0
West Wickham Parish Church	43	0	0
Ferme Park Baptist Chapel, Hornsey	43	0	0
Crouch Hill Presbyterian Church	43	0	0
Grosvenor Chapel, South Audley-street	42	0	0
Mitcham Parish Church	41	0	0
St. Germain's, Blackheath	41	0	0
St. Mary's, West Kensington	41	0	0
Chapel Royal, St. James's	41	0	0
St. Saviour's, Denmark Park	40	0	0
St. Paul's, Forest Hill	40	0	0
St. Andrew's, Totteridge	40	0	0
Christ Church, Highbury	40	0	
St. Matthias's, Earl's Court	39	0	0
St. Mary the Virgin, Hayes	33	0	0
Hornchurch Parish Church	38	0	0
St. Stephen's, Wandsworth	37	0	0
St. Paul's, Wimbledon	37	0	0
St. Mary Magdalene's, Wandsworth	37	0	0
Gray's Inn Chapel	37	0	0
St. Stephen's, Westminster	31	0	0
Merton Parish Church	37	0	0
St. Luke's, Hornsey	36	0	0
St. Augustine's, South Kensington	36	0	0
St. Stephen's, Hampstead	36	0	0
St. Michael's, Bechworth	36	0	0
St. Jude's, Chelsea	35	0	0
St. Mary Magdalene's, Enfield	35	0	0
Islington Parish Church	35	0	0
Christ Church, Wanstead	34	0	0
St. Mary's and All Saints, Ealing	34	0	0
Blackheath Wesleyan Church	33	0	0
St. Mark's, Kennington	33	0	0
St. Matthew's, Westminster	32	0	0
Little Ilford Churches	32	0	0
King's Weigh-House Chapel	32	0	0
Our Lady of Victories, Kensington	32	0	0
Pinner Parish Church	31	0	0
Chigwell Parish Church	31	0	0
Gordon-square Catholic Apostolic Church	31	0	0
St. Peter's, *Dulwich Common*	31	0	0
St. George's, Tufnell Park	30	0	0
Christ Church, Woburn-square	30	0	0
St. Gabriel's, Cricklewood	30	0	0
Muswell Hill Congregational Church	30	0	0
St. Mary-le-*Park, Battersea*	29	0	0
St. Andrew's, *Whitehall Park*	29	0	0
St. John's, Deptford	29	0	0
All Saints, *Putney Common*	29	0	0
Box outside Mansion House	28	0	0
St. Peter's, Clapham	28	0	0
Hadley (Monken) Parish Church	28	0	0
St. Michael's, Stockwell	28	0	0
St. Gabriel's, Warwick-square	28	0	0
Holy Redeemer, Stoke Newington	27	0	0
St. Anselm's, Pinner	27	0	0
St. *Mary's*, Putney	27	0	0
St. Andrew Undershaft	27	0	0
New Court Chapel, Tollington Park	27	0	0
St. Anselm's, Davies-street	27	0	0
Ewell Parish Church	27	0	0
Barnes *Parish Church*	26	0	0
St. Andrew's, Kingswood	26	0	0
Mitcham Parish Church	26	0	0
Woodford *Parish* Church	26	0	0
Harrow Weald Parish Church	26	0	0
St. Peter's, Fulham	25	0	0
St. Mary's, *Primrose Hill*	26	0	0
Old Church, Stoke Newington	25	0	0
St. *James's, Garlickhithe*	25	0	0
Epsom Parish Church	25	0	0
Holy Redeemer, Chelsea	25	0	0
Christ Church, Greenwich	25	0	0
St. James's, Knatchbull-road, Camberwell	25	0	0
Muswell Hill *Presbyterian* Church	25	0	0
Emmanuel Church, Northwood	23	0	0
Bromley-by-Bow Parish Church	22	0	0
St. Peter's, Walton-on-the-Hill	22	0	0
Bloomsbury Baptist Chapel	22	0	0
Orange-street *Congregational* Church	23	0	0
Effra-road Unitarian Church	22	0	0
St. Andrew's, Watford	21	0	0
St. Matthew's, Redhill	21	0	0
Christ Church, *Harlesden*	21	0	0
Bromley Wesleyan Church	21	0	0
St. Cyprian's, Brockley	20	0	0
Trent Church, Enfield	20	0	0
St. Philip's, Sydenham	20	0	0
Chislehurst Wesleyan Chapel	18	0	0
Crayford Parish Church	18	0	0
Downs Chapel, Clapton	17	0	0
St. Margaret's, Upper Norwood	16	0	0
Holy Trinity, *Lamorbey*	16	0	0
Upper Clapton Congregational Church	14	0	0
St. Stephen's, *Hounslow*	13	0	0
Royal Hospital Chapel, Chelsea	13	0	0
Wesleyan Church, Muswell Hill	12	0	0
Wesleyan Methodist Church, Archway-road, N.	10	0	0

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary meeting of the Council was held on June 13th, Mr. Henry Morris, the President, being in the chair.

A report was received from the deputation to the Lord President of the Privy Council concerning the representation of the Members on the Council of the College. The deputation reported that it had placed the views of the Council before the Lord President. The deputation consisted of the President, the Vice-Presidents, Mr. Howard Marsh, Mr. H. T. Butlin, and Mr. A. Pearce Gould.

The Board of Examiners in Anatomy and Physiology for the Fellowship reported that at the recent first examination for the Fellowship 113 candidates presented themselves, of whom 37 were approved.

The Court of Examiners for the Fellowship reported that 63 candidates presented themselves for the final Fellowship examination and that 26 candidates had passed.

On the report of the Board of Examiners in Dental Surgery it was resolved to issue Licences in Dental Surgery to the 26 candidates found qualified.

On the recommendation of the Board of Examiners in Dental Surgery it was resolved :—

1. That Colonial dental practitioners who have completed a course of not less than three years' instruction in mechanical dentistry and who have been registered in British Colonies under conditions which do not require the passing of a recognised preliminary examination, be admitted to the examinations for the Licence in Dental Surgery, provided they pass the required preliminary examination in general education and complete the course of study required by the regulations at a recognised medical school and hospital and at a recognised dental school and hospital.

2. That a candidate who possesses a registrable dental qualification be admissible to re-examination without producing certificates of additional study.

It was further resolved :—

That the following regulation recently adopted by the Royal Colleges in regard to Conjoint candidates do also apply to dental students and be incorporated in the regulations for the Licence in Dental Surgery :—

A candidate must present himself for examination in chemistry and physics together (unless he claims exemption from one of them) until he has reached the required standard to pass in both, or in one of these parts, but he will not be allowed to pass in one part unless he obtains at the same time half the number of marks required to pass in the other part.

It was resolved to close the library during September and October next for the purpose of redecoration.

The following appointments as examiners were made :— Elementary Biology : Thomas George Stevens and H. W. Marett Tims. Anatomy under the Conjoint Board : W. H. Clayton Greene, Arthur Robinson, and William Wright. Physiology under the Conjoint Board : Bertram Louis Abrahams and John Beresford Leathes. Anatomy for the Fellowship : Christopher Addison, W. McAdam Eccles, Arthur Keith, and Alfred Harry Young. Physiology for the Fellowship : Thomas Grigor Brodie, George Alfred Buckmaster, Charles F. Myers-Ward, and W. H. Thompson. Midwifery under the Conjoint Board : A. H. N. Lewers, H. J. M. Playfair, W. Rivers Pollock, and W. W. H. Tate. Diploma in Public Health : Part. I., Harold R. D. Spitta ; Part II., H. Timbrell Bulstrode.

The President reported that Professor William Wright had duly delivered a course of three Hunterian lectures on the Prehistoric and Early Historic Inhabitants of England.

In pursuance of the wishes of the Royal College of Physicians of London it was resolved that the committee of management should be authorised to enter into negotiations with the examining bodies with a view to secure the necessary rearrangement of the curriculum suggested by the Midwifery Curriculum Committee in order to obtain two and a half years for the clinical portion.

A letter was read from the Secretary of the London School of Medicine for Women forwarding a final list of 64 additional signatures to the petition for the admission of women to the examinations of the College, making a total of 2792 signatures.

A letter was read from Lieutenant-Colonel Sir J. Fayrer, R.A.M.C., thanking the Council on behalf of Lady Fayrer and all the members of the family for sympathy and condolence on the death of his father, Sir Joseph Fayrer, Bart.

The President reported that a meeting of Fellows would be held at the College on Thursday, July 4th next, for the election of four Fellows into the Council in the vacancies occasioned by the retirement in rotation of Sir John Tweedy, Mr. H. W. Page, Mr. C. W. Mansell Moullin, and Mr. F. S. Eve, of whom Sir John Tweedy did not offer himself for re-election.

A vote of thanks was given to Sir John Tweedy for his long and zealous services to the College.

THE RED CROSS CONFERENCE.

The Eighth International Red Cross Conference was opened at the Examination Hall, Victoria Embankment, London, on June 11th under the presidency of Field Marshal Lord Roberts. In opening the proceedings Lord Roberts said that since the British Red Cross Society was established in 1870 by the late Colonel Lord Wantage, V.C., no less than half a million of money had been expended in providing comforts for soldiers and sailors in hospital. Of this sum £162,000 were spent during the war in South Africa. After expressing the hope that the deliberations of the delegates would result in further developing the methods for alleviating the sufferings unavoidable during a state of war, he read a letter from the Queen, the President of the British Red Cross Society, in which Her Majesty welcomed the first international meeting on British soil, and also a telegram from the Empress of Russia wishing success to the labours of the Conference. Lord Roberts then read a letter from Miss Florence Nightingale and declared the Conference open.

The Marquis de Vogüé, Baron von dem Knesebeck, and M. G. Ador addressed the assembly, after which the following were appointed vice-presidents : The Marquis de Vogüé (French central committee), Sir F. Treves (English central committee), Sir John Furley (Great Britain), Baron von dem Knesebeck (Germany), Prince Hugue de Dietrichstein (Austria), Major-General C. H. Arendrup (Denmark), Colonel William Cary Sanger (United States), Count André de Csekonics (Hungary), Count Rinaldo Taverna (Italy), Baron Takeo Ozawa (Japan), Baron de Hardenbroek de Bergambacht (Holland), M. de Martens (Russia), and M. Ador (International Committee). M. Edouard Naville was appointed general secretary with the following as secretaries : M. Tasson (Belgium), M. Wunderlich (Germany), M. Pérouse (France), M. Neiss (Switzerland), Dr. Calatraveno (Spain), M. Motzfeldt (Norway), M. Ackerman (Sweden), and Dr. Bikélas (Greece).

On June 12th the delegates met under the chairmanship of the Marquis de Vogüé. After some discussion it was decided that the income of the Empress Augusta Fund, which amounted to about £200 a year, should be devoted to the establishment of travelling scholarships so that selected members of the German Red Cross societies could visit different countries and investigate the methods followed by other societies. By this means the next International Conference in 1912 will have a body of experts in international questions affecting the Red Cross.

M. de Martens submitted a report from the Russian central committee on the subject of the succour of prisoners of war, and after considerable discussion the following was adopted as a resolution :—

The Eighth International Red Cross Conference expresses the opinion that Red Cross societies should recognise that, by force of circumstances, they are obliged to render assistance to prisoners of war subject to the stipulations of the Hague Convention of 1899 and within the limits prescribed by the laws and customs of their countries. The Conference takes cognisance of the declaration of the International Committee of Geneva, offering to act, in case of need, as intermediaries between the central committees of different countries.

On June 13th the Conference resumed its deliberations when the Marquis de Vogüé again presided.

M. Ador read a communication from Dr. Ariga of the Japanese Red Cross Society offering Japanese hospitality for the next International Conference.

General Priou, a member of the Union des Femmes de France, read a paper on the Place and Part of Women in Sanitary Establishments and Hospitals in Time of War. He proposed, in the name of the central committee of the French Red Cross, that the Conference would express the hope that, in all nations, the greatest efforts should be made to bring the masses to recognise and to understand well the necessity of employing women in the territorial hospitals in time of war and of imparting preliminary instruction to them from the material as well as from the moral point of view. The proposition was unanimously agreed to.

Mr. G. H. **MAKINS**, C.B., member of the council of the British Red Cross Society, read a paper on the Rôle of Red Cross Societies during Maritime War. He said that the nature and extent of the aid which could be given by such societies during a naval war was a question of extreme difficulty, partly from the conditions attendant on such warfare and partly from the want of sufficient practical experience. In regard to the general administration of hospital ships, it was desirable that in every respect, as to discipline, equipment, and rations, all hospital ships should be on an identical footing. Medical officers and male and female nurses would certainly be needed in a great war in numbers far above that which any navy could possibly supply. The requirements in regard to the provision of stores and dressings differed little from those of military warfare, but it had to be borne in mind that dressings suitable for military first aid were quite different from those needed in naval campaigns, where the rarity of rifle wounds and the frequency of extensive shell wounds, burns, and scalds rendered a much larger type of dressing a necessity.

Baron **TAKEO OZAWA** (Japan) contributed a paper on the work of the Japanese Red Cross Society. He said that according to military reports there were in the late war 220,812 wounded and 334,073 sick Japanese soldiers and 77,809 sick and wounded Russian prisoners. Deducting from this the number of those who died on the field or were missing, the approximate number of patients which the Army Medical Service had to take care of during the war was 580,000. The Army Medical Corps and the relief corps of the Red Cross Society always worked side by side in the same hospitals, and the relief corps of the society, in the area of operations, on board ship, and in the home territory gave aid to the same patients at different stages of their treatment. In almost all the hospitals on the line of communications and at home the relief corps was entrusted with the treatment of severe medical and surgical cases and infectious diseases, and only the Red Cross Society's nursing *personnel* was used in hospital ships. The Japanese army and navy had no female nurses in their organisations. The two hospital ships of the society were specially built for the purpose of being hospital ships and their transport column was a new organisation having no equivalent in the army. For the whole work of relief during the war the society employed 5170 persons, who were organised into 152 relief corps, and spent a little over half a million pounds sterling.

Motions to the following effect were adopted:—

> (1) The experience of the Russo-Japanese War confirms the urgency of the organisation of a network of stores of sanitary material in time of peace, (2) in order that this organisation may rise to the height of the object proposed, it is necessary that it should be directed by a competent organ, which would be kept constantly informed concerning scientific and technical progress, (3) the renewal of the sanitary material will be effected by the sale of the said material to the hospitals and communities under the control of the representatives of these institutions.

The Marquis **DE VOGÜE** again presided on June 14th.

Dr. **FERRIÈRE** (France) brought up the report presented by the International Committee on the participation of the Red Cross in the struggle against tuberculosis. It stated that Red Cross Societies should aim at (1) obtaining from the military authorities the communication of medical reports concerning men refused as recruits as tuberculous or suspected of becoming so, as well as those concerning soldiers who had become tuberculous in the service and had been discharged on that account; (2) obtaining, so far as possible, by the intermediary of the military and civil authorities that persons belonging of right to the army but discharged as a measure of military prophylaxis owing to tuberculosis should not become itinerary centres of tuberculous contagion in the civil population; (3) the putting of Red Cross Societies in relation with organisations, official or private, competent to assure to tuberculous persons discharged from the army care, assistance, and supervision both in their own interest and in that of general prophylaxis; and (4) direct intervention, when necessary, in the aid given to those eliminated from the army, either by the creation of institutions *ad hoc*, sanatoriums, labour colonies, agricultural colonies, or invalid asylums, or the supervision of the patients in their own families, whether by subventions in money, *matériel*, or *personnel* given to the existing anti-tuberculous institutions. After some discussion it was unanimously resolved that it was desirable that Red Cross Societies should take part in time of peace in the effort to combat tuberculosis, by devoting their attention more particularly to men refused as recruits as well as to soldiers eliminated from the army as tuberculous, or suspected of becoming so. In this respect the support of the civil and military authorities was necessary to realise an efficacious prophylaxis.

The Marquis **DE VOGÜÉ**, as President of the Central Committee of the French Red Cross, read a paper by Professor Félix Guyon, which dealt with the question of good dressings for wounds. In the course of the paper the writer paid a very high tribute of praise to Lord Lister. He proposed (1) the organisation in the army and the civil population of theoretical and practical instruction in regard to the dressing of wounds, and the spreading by that teaching of measures which would protect the people and things from contamination; and (2) a special study of the measures which in time of war, as in time of peace, assure to the wounded the application of a dressing made as quickly as possible, in conditions which obviate the danger of infection. These proposals were agreed to and the members of the Conference rose as a mark of respect for the name and work of Lord Lister.

The concluding sitting of the Conference was held on June 15th. In the afternoon the delegates were received by the King and Queen at Buckingham Palace.

THE EXHIBITION.

In connexion with the Conference an exhibition of Red Cross appliances was held at Prince's Hall, Earl's Court. The first day, June 11th, was devoted to a private view by the delegates and the press, but an unexpected visit by the Queen, who was accompanied by the Queen of Denmark and Princess Victoria, gave great satisfaction to the exhibitors. Princess Christian and Princess Victoria of Schleswig-Holstein visited the exhibition on June 14th.

Part of the exhibits were sent by the various Red Cross Societies in order that delegates might become acquainted with the work of the different national societies and part were sent in for competition for prizes established in 1902 by the Empress Marie Féodorovna of Russia. It was hoped that by opening the exhibition free to visitors to the Earl's Court Exhibition for a few days a stimulus would be given to public interest in Red Cross work, but it is to be feared that from this point of view the exhibition was not an unqualified success. With few exceptions the exhibits were overcrowded and it was almost impossible for the general public to gain any very clear idea of the work which the Red Cross Societies accomplish.

The German section was well represented, the individual exhibits being very large but of varying degrees of excellence. A notable feature of this section was the large number of improvised first aid appliances. America, Austria, Denmark, Holland, France, Mexico, Italy, Japan, Russia, and Switzerland showed appliances of varying degrees of merit. Among the exhibits of the Russian Red Cross Society was the interesting model of a hospital train made under the direction of the senior, Dr. Madame Affanasieff and of the Sister of Mercy Olive. The original of the model was used in the late Russo Japanese war and consisted of goods wagons converted into a travelling hospital. Much ingenuity is shown in the fitting up of the wagons which, of course, were never intended for the transport of wounded men. Some other appliances actually used at the seat of war were also shown.

Among the private firms and individuals who exhibited in the foreign sections Messrs. Utermohlen and Co. (Amsterdam) had a simple and useful first-aid dressing which folds into a packet 2 by 1½ by ½ inches. It is so folded that the surface intended for contact with a wound cannot become contaminated with foreign matter before use. Under the ægis of the Swiss Red Cross Society Mr. D. Hommel showed an ingenious apparatus with two bicycles for carrying wounded. In the same section two stretchers mounted on bicycle wheels were shown by Dr. W. Sahli. These would appear to be of great use in certain circumstances. Messrs. Weber (agents, H. Surbeck and Co., Cheapside, London, E.C.) exhibited a stretcher adopted by the Swiss army which divides into two parts, each of which weighs 10 pounds and is carried folded up by an infantry soldier and slung over the shoulder like a rifle. All parts are interchangeable and the stretcher is of a very practical nature.

In the British section Sergeant-Major H. Barratt had an interesting collection of appliances the outcome of his experiences in the South African war. They are all designed with the object of facilitating the carrying of wounded men and of minimising pain by reducing jolting and vibration, A combined stretcher and sling carrier and a hammock stretcher are as simple as they are likely to be useful, while a spring bracket to support stretchers should prove of great service to wounded when travelling over rough roads in carts or on the floors of railway wagons. A portable stretcher is so constructed that the patient can be laid upon a canvas sheet and the stretcher built round him. All materials likely to be required for first aid are carried in the handles of the stretcher, which are hollow. Messrs. J. and A. Carter (New Cavendish-street, London, W.) exhibited a specially designed field ambulance and two two-wheeled ambulances, the "Carrofax" and the "Salvator." All are fitted with their patent Rastilon suspensory automatic weight-adjusting springs which were described in THE LANCET of July 28th, 1906, p. 236. The field ambulance is worthy of special note on account of the ease with which it can be dismantled and the small space into which it can be packed. The "Salvator" street ambulance has, we understand, been in use by the City police for the past nine months and has given entire satisfaction. Major R. H. Luce, R.A.M.C. (Volunteers), showed a single-wheeled stretcher mounted on a single bicycle wheel for use with the ordinary British army stretcher. Colonel H. G. Hathaway, R.A.M.C., Colonel Valentine Matthews, R.A.M.C. (Volunteers), and Major W. Kirkpatrick had several interesting exhibits, while Major E. H. Richardson showed two dogs for use in searching for wounded men. They are the result of a cross of specially selected breeds and have been found of great use in finding men in places likely to be overlooked by stretcher bearers, especially in night attacks. They carry first-aid dressing and stimulants. Such dogs, we understand, have been adopted by several of the continental armies and were used during the late Russo-Japanese war. Messrs. Leslie, Limited (5, Lloyd's-avenue, London, E.C.), exhibited their various dressings, and the St. John Ambulance Association showed a military ambulance wagon which can be used for either civil or military purposes and two litters of an improved type which have a like double use. Messrs. Henri Simonis and Company (Norfolk-street, London, W.C.) showed their ambulance cycle. When folded up it is an ordinary bicycle on which an ambulance man can travel quickly to the scene of an accident. It can be transformed into a two-wheeled ambulance and attached as a trailer to a bicycle. The same firm exhibited a collapsible stretcher, the "Valada," the sides of which are made after the principle of lazy tongs. It weighs about 12 pounds and can be packed into a small compass and carried like a knapsack. Mr. J. Lynn Thomas, F.R.C.S., amongst other exhibits showed a portable operation table. An exhibit that attracted much attention was the universal splint devised by Sir Frederick Treves and shown by Messrs. Evans and Wormull, 31, Stamford-street, London, S.E. The material consists of aluminium rods fitted with flattened staples at intervals of three inches. These are made in lengths of five feet and can be bent to any form. The splints are made by cutting the rods into suitable lengths to form lateral pieces and connecting them by cross bands of aluminium. The tools required are a pair of pliers, a slotted block, and a measure.

INDIAN MEDICAL SERVICE: THE ANNUAL DINNER.

THE annual dinner of the officers of the Indian Medical Service was held on June 13th at the New Gaiety Restaurant, London, Surgeon-General Sir Benjamin Franklin, K.C.I.E., being in the chair. The dinner was well attended and as there were no speeches the proceedings were of an informal and very enjoyable nature. The chairman briefly referred to the loss which the service had sustained by the death of Sir Joseph Fayrer and proposed that the sympathy of the officers of the Indian Medical Service then present should be conveyed to Lady Fayrer.

The members present were:—*Surgeon-Generals:* A. M. Branfoot, C.I.E., W. B. Beatson, G. W. R. Hay, and L. D. Spencer. *Colonels:* C. W. Carr-Calthrop, W. E. Oates, W. H. Henderson, D. E. Hughes, C. H. de la Ferté Joubert, and W. A. S. Wynne. *Lieutenant-Colonels:* A. Alcock, E. Bovill, Sir R. Havelock Charles, K.C.V.O., S. H. Dantra, P. J. Freyer, W. Gray, E. R. Johnson, G. F. A. Harris, H. Herbert, D. P. Macdonald, T. H. Pope, C. L. Swaine, W. H. Thornhill, J. F. Tuohy, and H. R. Woolbert. *Majors:* G. T. Birdwood, W. H. Caldwell, J. Davidson, A. L. Duke, T. W. A. Fullerton, T. A. Granger, P. B. Haig, S. Hassan, J. B. Jameson, C. A. Johnston, H. G. Melville, W. Molesworth, A. H. Nott, P. W. O'Gorman, L. Rogers, P. C. H. Strickland, and B. G. Turner. *Captains:* H. Ainsworth, A. Fenton, J. K. S. Fleming, G. Harkness, J. H. Horton, R. W. Knox, J. C. G. Kunhardt, Hayward Pinch, F. C. Rogers, R. Steen, E. O. Thurston, J. N. Walker, E. L. Ward, J. W. Watson, and W. S. Willmore. The guests present were Sir Thomas Barlow, K.C.V.O., Dr. Dawson Williams, and Dr. R. A. Young.

MEDICINE AND THE LAW.

Lord Howard de Walden v. Eastes.

IN the High Court of Justice on June 11th there was concluded the case of Lord Howard de Walden *v.* Eastes. The action was brought to restrain the defendant, George Leslie Eastes, M.B. Lond., M.R.C.S. Eng., a medical practitioner, from carrying on a laboratory of pathology at 62, Queen Anne-street, W., on the ground that the carrying on of this laboratory constituted a breach of covenant. The lease was granted in 1893 by the trustees of the Portland Estate to John and Mary Anne Lintott and contained a covenant that the lessees would not, without the previous written consent of the lessors or reversioners, permit or suffer to be used or exercised in or upon the said premises any trade or business whatsoever, but should and would use and occupy the same as and for a private dwelling-house only, except that the same might be used for residential or professional chambers or for offices; and should not, without such consent as aforesaid, make any alteration of or upon the said premises, or do or suffer anything which should be or tend to the annoyance, nuisance, or damage of the person or persons for the time being entitled in reversion or his or their tenants. In 1901 the Lintotts sublet the basement of the house to the defendant who established there a pathological laboratory. This came to the ears of the agent of the estate who wrote to the Lintotts and called their attention to the covenant. After some argument, in September, 1901, a licence was granted to the Lintotts by which they were empowered to allow the defendant "to carry on microscopical tests of fluids of the human body in the basement portion of the said premises and to affix one name-plate outside the said premises, to contain the name of the said George Leslie Eastes only, …… but on condition that no animals are kept on the said premises for the purposes of experiments, and that no biological tests or inoculation be carried on there, and that nothing be done or allowed upon the said premises which shall cause any injury, nuisance, damage, or annoyance to the licensor, his heirs, or assigns, or his or their tenants." There was a further condition enabling the licence to be revoked or withdrawn by three months' notice and it was provided that on the expiration thereof "the said premises shall immediately cease to be used for the purposes hereinbefore authorised." John Lintott died in 1906 and Mary Anne Lintott assigned the premises to the defendant for the remainder of the term, whereupon he altered the ground floor for use as a laboratory and put up two name-plates in addition to that bearing his own name. The plaintiff alleged that by these acts the defendant had broken the terms of the covenant and had exceeded the terms of the licence, and therefore in November, 1906, the plaintiff gave notice to revoke the licence. Mr. Justice Swinfen Eady, in giving judgment, referred in a most sympathetic manner to the value of the work which the defendant had been carrying on. There was no suggestion of improper advertisement but the whole question was a legal one—namely, whether useful and beneficial as the work of the defendant was, he was legally entitled to carry it on at 62, Queen Anne-street. He had broken his licence in that he had extended the work from the basement to the ground floor and had put up more than one plate and one name. He would not draw any distinction between different branches of the defendant's work. He was doing what the licence authorised but what he was precluded from doing if the licence were determined and as it has been determined he was not entitled to carry on the work. The plaintiff was entitled to an injunction perpetually restraining the defendant during the continuance of the lease from using the premises as a laboratory of pathology and the costs would follow the event. The operation of the injunction would, however, be suspended over Sept. 29th next to give the defendant time to make arrangements.

We sympathise with Dr. Eastes in his difficulties but we fear that according to the terms of the covenants into which he had entered he placed himself in a wrong position in making the alterations and in acting as he did. It may be that now that the law has declared itself on the side of the landlord Lord Howard de Walden may see fit to allow the work of Dr. Eastes to be carried on as heretofore. It would appear, however, that the authorities of the Portland Estate have recently adopted what may be called a plan of campaign against door plates, for we understand that medical men who have recently gone to reside on the estate have not been allowed to affix such plates to their doors.

Professional Misconduct.

The Court of Appeal gave judgment on June 12th in Hill *v.* Clifford, Clifford *v.* Timms, and Clifford *v.* Phillips—three cases of great importance to the medical profession. There is one important point common to all the three cases. The cases raised a question as to "professional misconduct" and as to the effect of an order of the General Medical Council under the Dentists Act, 1878. The cases originally came before Mr. Justice Warrington. In Clifford *v.* Timms articles of partnership between the plaintiff Clifford and the defendant Timms, who were dentists, provided that if either partner were at any time during the partnership guilty of professional misconduct or discreditable action the other partner would be at liberty to determine the partnership. The defendant gave the plaintiff written notice to determine the partnership upon the ground that he had been guilty of professional misconduct. It was proved that the plaintiff was a shareholder and director of a company which carried on a dental business and which employed unregistered persons to attend patients, and which advertised by means of pamphlets. The General Medical Council, acting under the Dentists Act, 1878, made an order upon the report of a committee, directing the Registrar to erase from the Dentists Register the name of the plaintiff upon the ground that it had been proved that he had been guilty of conduct which was "infamous or disgraceful in a professional respect" within Section 13 of the Act. The defendant tendered in evidence the order of the Medical Council and the report of its committee to show that the plaintiff had been guilty of professional misconduct within the meaning of the partnership articles. Mr. Justice Warrington held that the evidence was not admissible and that upon the facts proved the plaintiff was not guilty of professional misconduct within the meaning of the articles. Before dealing with the judgment in the Appeal Court, it may be observed that Isidore and Ruby Clifford, being registered dentists, had entered into three separate partnerships with Hill, Phillips, and Timms for carrying on the profession or business of dentists and the actions related to the right of these three persons to determine the several partnerships on the ground that the Cliffords had been found guilty of conduct which was "infamous or disgraceful in a professional respect," and had thereupon been removed from the Register of Dentists. It was contended on behalf of the Cliffords that the order of the Medical Council was *res inter alios acta* and not admissible in evidence to prove that they were guilty of professional misconduct. This contention was adopted by the learned judge in the court below, but the Master of the Rolls in the course of his judgment in the Court of Appeal said: "I cannot agree with this view. I think the order is admissible as evidence of the existence of conduct which was 'infamous or disgraceful in a professional respect,' the proof of which fact was essential to the validity of the order of the General Council. In my opinion the order of the General Council should be treated on the same footing as an inquisition. Unless, and until, evidence to the contrary is given the order suffices to prove that the Cliffords were guilty of statutory misconduct. No evidence was given by the Cliffords to rebut this *primâ facie* evidence. I may add that I doubt whether it is competent to any court to review a declaration by the General Council that an act of a particular kind is 'disgraceful conduct in a professional respect,' even though it may be competent to review the decision that a certain individual has committed an act of that particular kind. The result is that, in my opinion, the judgment appealed against must in each case be reversed. Judgment in Hill's action must be given for the relief asked by the claim, and the two actions brought by the Cliffords against Phillips and Timms must be *dismissed*. The Cliffords must pay the costs in the court below and in this court of each action." It has been held that the General Medical Council is constituted the sole judge of whether a medical practitioner has been guilty of infamous conduct in a professional respect and the court will not interfere where the Council has found anyone guilty after due inquiry. (*Ex parte* La Mert, 4 B. & S. 582.) It would seem that the General Medical Council is bound to give the accused person an opportunity of being heard in his defence, but such person is not entitled to demand to be allowed to appear by counsel. (R. *v.* the General Council, 30 L. J. Q. B. 201.) It is further provided by the Medical Acts that if any of the recognised colleges or medical or surgical bodies at any time exercise any power which they possess by law of striking off from the list of such college or body the name of any one of their members, such college or body shall signify to the General Medical Council the name of the member struck off. A person's name may not, however, be erased from the Register on the ground of his having adopted any theory of medicine or surgery.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 20th, 1829.

STATE OF THE MEDICAL PROFESSION.

"Non ignara mali, miseris succurrere disco."—*Virg.*

To the Editor of THE LANCET.

SIR,—The observations of H. W. D., in No. 299 of your valuable Journal, have directed my attention to a subject which has long and frequently been matter of painful musing to me—the unprotected, the unbefriended state of the Medical Profession. The remarks of a "Medical Benedick," in a former Number, on the same subject, I had hoped, would have excited, long ere this, the dormant sympathy of its listless members, and have aroused towards their unfortunate and sick-at-heart brethren, those kindly feelings of commiseration which their situation is so well calculated to call forth. Deeply as I, individually, have deplored the apathy which, dwelling in the bosom of its more fortunate members, have allowed these appeals, strong and energetic as they have been, thus to have subsided into oblivion, unnoticed and unheeded, I have hesitated to answer them myself, in the earnest hope, that amongst the hundreds that exist, many voices more persuasive, and pens more influential than my own, would have enlisted themselves in a cause so grateful to the best and noblest feelings of humanity. But alas!

> "Rari quippe boni: numero vix sunt totidem quot
> Thebarum portæ, vel divitis ostia Nili."

These appeals, in behalf of the forlorn and friendless, have failed in making an impression on the hearts of those to whom they were addressed—the medical profession; but I sincerely trust, for its reputation generally, *that the silence which its members* have hitherto observed on the subject, is more the result of want of reflection and ignorance of the miseries it is proposed to alleviate, than cruel and wanton indifference to the sufferings of their professional brethren. Let them hear from me, that there are, at this moment, *hundreds* of these brethren, once as affluent as themselves, once as vigorous, and even now, perhaps, of as *high acquirements as* themselves, pining, many of them with a wife and family, in the very depths of want and misery! I have in my eye, at this moment, a highly talented M.D., with an amiable wife and two accomplished daughters, thus sinking beneath the blight of misfortune, unprotected, unbefriended, and unheeded—eking out their bitter moments in an obscure garret, with naught but their *religion to comfort* them. But this is not a solitary instance; hundreds, I doubt not, might be mentioned, were it our business to seek them out. Yet is it not horrible that a fate like this should await those members of the community whose lives are spent in administering to the relief of suffering humanity—who sacrifice health and comfort to its necessities—whose lives are *devoted to a species of* civil slavery, which knows neither rest nor *intermission!* The members of the medical profession, unlike all others, are dependent for support no less on their moral than on their professional character; their duties, arduous as they are, afford them, generally, but the bare means of supporting their characters as gentlemen; yet they are obliged, by the narrow-minded feelings of the public, on whom they are dependent, often to enter, prematurely, into obligations the most sacred, and to incur responsibilities the most imposing, lest they labour under disabilities which would render futile their education and attainments. They are subjected, by their investigations of the intricacies of disease, to the dangers of self-destruction by inoculation, or to the sacrifice of health in their devoted attention to their duties, for there is no source of disease in the human body so fertile as that emanating from the harassed state of mind inseparable from the anxieties attendant on those duties. Yet from these, from misfortune, from faculties impaired by age, *we* have no refuge; all other classes enjoy theirs, but we must, with prophetic sagacity, depend alone on uninterrupted health and prosperity to enable us to fulfil the many and sacred obligations our destinies ordain us to incur!

Yet is it not monstrous, that amongst men so enlightened as those which the medical profession numbers in its ranks, misery unalleviated, and misfortune unbefriended—talent unfostered, and labour unrequited—should thus be permitted to exist?—Shall we, on whose sympathy and kindly feelings a greater demand is made than on any other class of men, remain, in the winter of our days, the only beings incapable of arousing, in the breasts of our brethren, those feelings of compunction and commiseration which so readily flow through all other channels? It must not be. If we would not draw down on our devoted heads the maledictions of the broken heart, and the curses of exhausted misery—if we would avoid the hatred and contempt of the more feeling portion of society, of those who are capable of appreciating the cruelty of thus forsaking, in the hour of need, our fellow-labourers—we must hasten (we have delayed too long) to provide them shelter from the passing storm, and a harbour, within whose welcome precincts their shattered barks may ride in safety.

> "Solvite corde metum, Teucri, secludite curas;
>
> Auxilio tutos dimittam, opibusque juvabo."

The importance of this subject leads me to hope, that it may forthwith be taken up by far abler pens than mine; should it not, however, I shall take the liberty of submitting to your notice the means I conceive to be the best calculated to carry this grand object into effect.

I am, Sir,
Your obedient servant,

June 1. Σ.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 6771 births and 4026 deaths were registered during the week ending June 15th. The annual rate of mortality, which had shown a continuous decline from 17·9 to 13·7 per 1000 in the ten preceding weeks, further fell to 13·1 in the week under notice. During the first eleven weeks of the current quarter the death-rate in these towns has averaged 15·5 per 1000, the rate in London during the same period being 15·0. The lowest annual death-rates in the 76 towns during the week were 3·9 in Smethwick, 4·4 in Aston Manor, 5·3 in Bournemouth, and 7·0 in Hastings; the highest rates were 20·0 in Tynemouth, 20·4 in Sunderland, 22·0 in Middlesbrough, and 22·3 in Preston. The 4026 deaths in the 76 towns showed a further decrease of 187 from the numbers in recent weeks, and included 430 which were referred to the principal epidemic diseases, against 474 and 463 in the two previous weeks; of these, 172 resulted from measles, 124 from whooping-cough, 50 from diarrhœa, 37 from scarlet fever, 36 from diphtheria, and 11 from "fever" (principally enteric), but not any from small-pox. The deaths from these principal epidemic diseases were equal to an annual rate of 1·4 per 1000, the rate from the same diseases in London being 1·7. No death from any of these epidemic diseases was registered last week in Cardiff, Brighton, Tottenham, Southampton, Halifax, or in nine other of the 76 towns; the annual death-rates therefrom, however, ranged upwards to 3·6 in Middlesbrough, 3·7 in Walthamstow and in Gateshead, and 4·7 in Hanley. The fatal cases of measles, which had declined from 214 to 193 in the four preceding weeks, further fell to 172 in the week under notice; the death-rates from this disease ranged upwards to 2·5 in Walthamstow, 2·6 in Middlesbrough, 3·3 in Gateshead, and 3·9 in Hanley. The 124 deaths from whooping-cough showed a slight decline from the number in the previous weeks, the highest annual rates therefrom being 1·3 in Leyton, 1·5 in Grimsby, 1·7 in St. Helens, and 2·0 in Stockton-on-Tees. The fatal cases of diarrhœa, which had been 51, 47, and 49 in the three preceding weeks, were 50 last week; the proportional mortality was greatest in Oldham, the rate being 1·1 per 1000. The 37 deaths from scarlet fever were seven in excess of the number in the preceding week, and included 13 in London, three in Manchester, and two each in Liverpool, Leeds, Bristol, and Salford. The fatal cases of diphtheria, which had been 48 in each of the two preceding weeks, declined last week to 36, and included eight in London, three in Sheffield, and three, equal to an annual rate of 1·3 per 1000 in Leyton. Of the 11 deaths referred to different forms of "fever," two occurred in London, two in Stockport, and one in each of seven other towns. The number of scarlet fever cases in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2732, 2824, and 2862 at the end of the three preceding weeks, had further risen to 2937 at the end of last week; 389 new cases were admitted during the week, against 382, 437, and 368 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had steadily declined from 412 to 186 in the ten preceding weeks, further fell to 149 in the week under notice, and were ten below the corrected average number in the corresponding period of the five previous years. The causes of 46, or 1·1 per cent., of the deaths registered during the week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, West Ham, Bradford, Newcastle-on-Tyne, and 50 other of the 76 towns; the proportion of uncertified deaths, however, showed a marked excess in Liverpool, Birmingham, Sheffield, Hull, and Northampton.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·7 and 19·0 per 1000 in the two preceding weeks, declined again to 17·2 in the week ending June 15th, but exceeded the rate in the 76 English towns by 4·1 per 1000. The rates in the eight Scotch towns ranged from 11·0 in Greenock and 12·6 in Aberdeen to 18·5 in Glasgow and 22·0 in Dundee. The 599 deaths in the eight towns showed a decrease of 61 from the number in the preceding week, and included 83 which were referred to the principal epidemic diseases, against 91 and 109 in the two previous weeks. These 83 deaths were equal to an annual rate of 2·4 per 1000, which exceeded by 0·7 the rate from the same diseases in the 76 English towns; they included 43 which were referred to whooping-cough, 26 to "fever," eight to diarrhœa, five to measles, and three to diphtheria, but not any to small-pox or to scarlet fever. The fatal cases of whooping-cough, which had been 38 and 57 in the two preceding weeks, rose again in the week under notice to 43, of which 30 occurred in Glasgow, seven in Edinburgh, three in Dundee, and two in Aberdeen. The 24 deaths referred to "fever" were two below the number in the preceding week and included 14 cases of cerebro-spinal meningitis in Glasgow, seven in Edinburgh, and two in Leith. The fatal cases of diarrhœa, which had been 14 and 13 in the two previous weeks, further fell last week to eight, of which four were registered in Glasgow and two in Dundee. The deaths from measles, which had been seven in each of the two preceding weeks, declined to five in the week under notice and included four in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 82 and 106 in the two preceding weeks, decreased again last week to 91, but were 11 in excess of the number in the corresponding week of last year. The causes of 20, or 3·3 per cent., of the deaths registered during the week were not certified; the proportion of uncertified deaths in the 76 English towns during the same week did not exceed 1·1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 23·1 and 23·9 per 1000 in the two preceding weeks, further

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MAY, 1907.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1907.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal fever.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,758,218	—	1990	739	—	82	—	24	384	21	3240	7·1	—	234	55	64	256	—	10	—	79	698	1·5	6405	14·0	102
West Districts.																										
Paddington	149,909	—	31	18	—	1	—	1	18	—	69	4·8	—	5	1	4	5	—	—	—	3	18	1·3	189	13·1	93
Kensington	181,842	—	53	16	—	6	—	1	8	—	84	4·8	—	3	1	3	20	—	1	—	1	29	1·7	240	13·8	165
Hammersmith	122,337	—	34	11	—	—	—	—	5	1	51	4·3	—	6	—	1	10	—	—	—	—	17	1·4	174	14·8	144
Fulham	166,749	—	38	46	—	4	—	1	14	1	104	6·5	—	10	1	4	4	—	1	—	6	26	1·6	187	11·7	95
Chelsea	74,857	—	31	19	—	6	—	—	3	—	59	8·2	—	4	—	1	3	—	—	—	3	11	1·5	112	15·6	113
City of Westminster	172,219	—	39	9	—	6	—	—	15	—	69	4·2	—	2	—	3	8	—	2	—	5	20	1·2	201	12·2	133
North Districts.																										
St. Marylebone	127,718	—	23	8	—	—	—	—	8	—	39	3·2	—	3	1	2	9	—	—	—	3	18	1·5	179	14·6	59
Hampstead	91,137	—	29	13	—	1	—	1	6	—	50	5·7	—	3	—	2	3	—	—	—	1	9	1·0	77	8·8	69
St. Pancras	236,753	—	75	27	—	4	—	—	9	2	117	5·2	—	17	3	2	8	—	—	—	1	31	1·4	346	15·2	109
Islington	347,017	—	106	36	—	9	—	—	23	1	175	5·3	—	20	1	1	19	—	—	—	7	48	1·4	482	14·5	128
Stoke Newington	53,613	—	29	2	—	2	—	—	—	—	33	6·4	—	—	2	—	5	—	1	—	1	9	1·8	75	14·6	102
Hackney	232,993	—	114	32	—	7	—	2	26	—	181	8·1	—	10	8	2	8	—	2	—	5	35	1·6	513	14·0	94
Central Districts.																										
Holborn	65,134	—	17	12	—	2	—	—	7	—	38	7·2	—	1	—	4	4	—	—	—	—	9	1·7	94	17·8	92
Finsbury	96,732	—	59	11	—	—	—	—	10	—	80	8·6	—	7	1	1	8	—	2	—	5	24	2·6	158	16·8	91
City of London	20,310	—	5	2	—	—	—	—	3	—	10	5·1	—	—	—	—	1	—	—	—	—	1	0·5	31	15·9	120
East Districts.																										
Shoreditch	115,662	—	73	24	—	3	—	1	8	—	109	9·8	—	12	4	2	16	—	—	—	2	36	3·2	224	20·2	140
Bethnal Green	130,831	—	79	13	—	3	—	1	28	1	125	10·0	—	7	3	2	11	—	—	—	2	25	2·0	200	15·9	127
Stepney	308,923	—	214	44	—	1	—	1	31	—	291	9·8	—	16	4	1	12	—	—	—	7	40	1·4	439	14·8	92
Poplar	171,036	—	99	52	—	3	—	—	14	2	170	10·4	—	21	5	5	5	—	1	—	2	39	2·4	276	16·8	98
South Districts.																										
Southwark	209,781	—	85	31	—	2	—	1	28	1	149	7·4	—	13	1	1	11	—	—	—	4	30	1·5	357	17·7	119
Bermondsey	128,263	—	61	27	—	1	—	—	14	2	105	8·5	—	4	1	1	12	—	—	—	2	20	1·6	209	17·0	87
Lambeth	318,538	—	50	22	—	5	—	2	21	5	145	4·7	—	18	2	2	19	—	—	—	7	48	1·6	406	13·3	97
Battersea	181,736	—	101	47	—	—	—	1	13	2	164	9·4	—	7	2	5	10	—	—	—	1	25	1·4	211	12·1	88
Wandsworth	281,419	—	117	55	—	6	—	3	17	1	199	7·4	—	11	4	6	14	—	—	—	1	36	1·3	316	11·7	84
Camberwell	277,059	—	106	41	—	5	—	3	22	—	177	6·7	—	9	4	2	22	—	—	—	5	42	1·6	356	13·4	96
Deptford	116,510	—	42	42	—	2	—	1	11	2	100	9·0	—	9	1	2	4	—	—	—	1	17	1·5	144	12·9	115
Greenwich	107,222	—	67	35	—	2	—	1	10	—	115	11·2	—	10	—	2	2	—	—	—	—	14	1·4	134	13·0	100
Lewisham	152,532	—	58	15	—	1	—	2	6	—	82	5·6	—	5	2	1	3	—	—	—	3	14	1·0	148	10·1	64
Woolwich	129,338	—	114	29	—	—	—	1	6	—	150	12·1	—	1	3	2	—	—	—	—	1	7	0·6	130	10·5	77
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

rose to 24·3 in the week ending June 15th. During the first 11 weeks of this quarter the death-rate has averaged 28·3 per 1000, the rate during the same period being 15·0 in London and 17·6 in Edinburgh. The 182 deaths of Dublin residents registered during the week under notice were three in excess of the number in the preceding week and included 12 which were referred to the principal epidemic diseases, against 17, 13, and 11 in the three preceding weeks; of these, eight resulted from whooping-cough, three from measles, and one from diarrhœa, but not any from small-pox, from scarlet fever, from diphtheria, or from "fever." These 12 deaths were equal to an annual rate of 1·6 per 1000, the death-rates during the same period from the principal epidemic diseases being 1·7 in London and 2·0 in Edinburgh. The fatal cases of whooping-cough, which has been ten, eight, and four in the three previous weeks, rose again to eight in the week under notice, while the deaths from measles declined to three, having been four and six in the two preceding weeks. The 182 deaths from all causes in Dublin last week included 23 of children under one year of age and 43 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a decline. One death from violence and five inquest cases were registered; and 75, or 41 per cent., of the deaths occurred in public institutions. The causes of 11, or 6 per cent., of the deaths in Dublin last week were not certified; in London the percentage of uncertified deaths was 0·3, and in Edinburgh it was 4·6. The 140 deaths registered in Belfast during the week under notice included 15 which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

VITAL STATISTICS OF LONDON DURING MAY, 1907.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 7·1 per 1000 of the population, estimated at 4,758,818 persons in the middle of the year; the rates in the three preceding months were 6·8, 6·6, and 6·9 per 1000 respectively. The lowest rates last month were recorded in Paddington, Kensington, Hammersmith, the City of Westminster, St. Marylebone, and Lambeth; and the highest rates in Shoreditch, Bethnal Green, Stepney, Poplar, Greenwich, and Woolwich. No case of small-pox was notified in London during the month. The prevalence of scarlet fever again showed an increase last month; this disease was proportionally most prevalent in Finsbury, Shoreditch, Stepney, Poplar, Greenwich, and Woolwich. The Metropolitan Asylums hospitals contained 2777 scarlet fever patients at the end of May, against 2829, 2614, and 2586 at the end of the three preceding months; the weekly admissions averaged 368, against 323, 312, and 332 in the three preceding months. The prevalence of diphtheria showed no variation from that recorded in the previous month; the boroughs in which this disease was most prevalent were Fulham, Chelsea, Poplar, Battersea, Deptford, and Greenwich. There were 933 diphtheria patients in the Metropolitan Asylums hospitals at the end of last month, against 916, 1012, and 946 at the end of the three preceding months; the weekly admissions averaged 121, against 126, 138, and 119 in the three preceding months. Enteric fever showed a considerably diminished prevalence in May compared with that in the earlier months of this year; the greatest proportional prevalence of this disease occurred in Kensington, Chelsea, the City of Westminster, Stoke Newington, and Holborn. The number of enteric fever patients under treatment in the Metropolitan Asylums hospitals, which had been 103, 93, and 66 at the end of the three preceding months, had further fallen to 47 at the end of last month; the weekly admissions averaged only nine, against 16, 13, and 12 in the three preceding months. Erysipelas was proportionally most prevalent in Holborn, the City of London, Bethnal Green, Southwark, and Hackney. The 24 cases of puerperal fever notified during the month included three belonging to Wandsworth, three to Camberwell, and two each to Hackney, Lambeth, and Lewisham. Of the 21 cases notified as cerebro-spinal fever five belonged to Lambeth and two each to St. Pancras, Poplar, Bermondsey, Battersea, and Deptford.

The mortality statistics in the table relate to the dea of persons actually belonging to the various boroughs, deaths occurring in institutions having been distribu among the several boroughs in which the deceased pers had previously resided. During the five weeks end June 1st the deaths of 6405 persons belonging to Lond were registered, equal to an annual rate of 14·0 per 10 in the three preceding months the rates had been 18·4, 15 and 15·8 per 1000. The death-rates last month ranged fr 8·8 in Hampstead, 10·1 in Lewisham, 10·5 in Woolwi 11·7 in Fulham and in Wandsworth, 12·1 in Batters and 12·2 in the City of Westminster, to 16·8 Finsbury and in Poplar, 17·0 in Bermondsey, 17·7 Southwark, 17·8 in Holborn, and 20·2 in Shoredit The 6405 deaths from all causes in London last mon included 698 which were referred to the principal infecti diseases; of these, 234 resulted from measles, 55 from scar fever, 64 from diphtheria, 256 from whooping-cough, from enteric fever, and 79 from diarrhœa. In addition these 698 deaths there were seven fatal cases of cerebro-spi fever, four of which belonged to Lambeth, and one each Fulham, Bermondsey, and Deptford. The lowest dea rates from the principal infectious diseases were recorded the Cities of London and Westminster, and in the boroug of Hampstead, Lewisham, and Woolwich; and the high rates in Stoke Newington, Finsbury, Shoreditch, Bethn Green, and Poplar. The 234 fatal cases of measles were below the corrected average number in the correspondi periods of the five preceding years; this disease was p portionally most fatal in Finsbury, Shoreditch, Popl Deptford, and Greenwich. The 55 deaths from scarlet fe were 10 in excess of the corrected average number; t greatest proportional mortality from this disease occurred Stoke Newington, Hackney, Shoreditch, Bethnal Gree Poplar, and Woolwich. The 64 deaths from diphtheria we slightly fewer than the average; among the various met politan boroughs the highest death-rates from this disea were recorded in Paddington, Fulham, Holborn, Poplar, a Battersea. The 256 fatal cases of whooping-cough show an excess of 60 over the corrected average number; th disease was proportionally most fatal in Kensington, Hamm smith, Stoke Newington, Shoreditch, Bethnal Green, a Bermondsey. The ten deaths referred to enteric fev were equal to only one-half of the corrected average for t corresponding period of the five preceding years; of the ten deaths two belonged to the City of Westminster, two Hackney, and two to Finsbury. The 79 fatal cases diarrhœa showed a slight decline from the corrected avera number; the greatest proportional mortality from th disease occurred in Fulham, Chelsea, the City of Wes minster, St. Marylebone, Finsbury, and Stepney. In co clusion, it may be stated that the aggregate mortality fro the principal infectious diseases in London last month w about 6 per cent. below the average.

Infant mortality, measured by the proportion of deat under one year of age to registered births, was equal 102 per 1000. The lowest rates were recorded in St. Mar lebone, Hampstead, Battersea, Wandsworth, Lewisham, a Woolwich; and the highest rates in Kensington, Hamme smith, the City of Westminster, Islington, Shoreditch, a Bethnal Green.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons H. W. Hull to the *Pathfinder*, on recommissioning. Civ Practitioners: J. O'Donoghue to be surgeon and agent Baldoyle and Clontarf and A. G. Price at Greystones.

In accordance with the provisions of Her late Majesty Order in Council of April 1st, 1881, Fleet Surgeon Alfre Patterson has been placed on the retired list, with permissio to assume the rank of Deputy Inspector-General of Hospital and Fleets (dated June 11th).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Captain (Honorary Lieutenant in the Army) H. Fo resigns his commission (dated April 9th, 1907).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion, the Leicestershi Regiment: Surgeon-Lieutenant W. F. McAllister-Hewling resigns his commission (dated May 9th, 1907). 3rd Voluntee

Battalion the Essex Regiment: Francis James Warwick (formerly Captain, Royal Army Medical Corps (Volunteers)), to be Surgeon-Captain (dated March 20th, 1907). 1st Hallamshire Volunteer Battalion the York and Lancaster Regiment: Surgeon-Lieutenant W. S. Kerr to be Surgeon-Captain (dated May 7th, 1907). 2nd (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant J. C. Herbertson to be Surgeon-Captain (dated March 19th, 1907).

Royal Engineers (Volunteers): 1st Newcastle-on-Tyne: Wilfred Ernest Alderson to be Surgeon-Lieutenant (dated April 26th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Eastern Command: Woolwich Companies: Lieutenant-Colonel and Honorary Colonel F. L. Stephenson, on completion of his period of service in command, is retired, with permission to retain his rank and to wear the prescribed uniform (dated April 16th, 1907). Major and Honorary Lieutenant-Colonel C. H. Hartt to be Lieutenant-Colonel, and to command under the conditions of paragraph 47, Volunteer Regulations (dated April 16th, 1907).

Scottish Command: Glasgow Companies: Lieutenant W. Bryce to be Captain (dated June 1st, 1907).

DEATHS IN THE SERVICES.

Brigade-Surgeon James Balfour Cockburn, A.M.D., on June 10th, at Guernsey, in his seventy-eighth year. He entered the service in 1854 as assistant surgeon, became surgeon in 1864, and surgeon-major in 1873, retiring in 1882. He served in the Eastern campaign of 1854–55, including the expedition to Kertch and Yenikale, and was present at the siege of Sebastopol (medal with clasp and Turkish medal). The deceased officer was a Provincial Grand Master of Freemasons in the Guernsey and Alderney District.

THE ARMY ORGANISATION SCHEME.

It is certainly worthy of being put briefly on record that the Territorial and Reserve Forces Bill as amended was discussed in the House of Commons on June 17th, when some important concessions in regard to the retention of the militia were intimated to the mutual satisfaction of the Secretary for War and the Leader of the Opposition. The Bill has now been read a third time in the House of Commons and relegated to the House of Lords for further consideration.

Correspondence.

"Audi alteram partem."

SIR FREDERICK TREVES ON THE PROPHYLAXIS OF DISEASE.

To the Editors of THE LANCET.

SIRS,—Certain imperfectly reported observations of mine, made at the opening of the Isolation Hospital for Infectious Diseases at Preston, have been so distorted in certain journals and have been so further misrepresented in a most objectionable advertisement just issued that I should be glad if you would allow me to refute the ridiculous assertions with which I am credited. I am made to say that "patients should leave off taking medicine when they are sick." I need not say that I made no such preposterous observation. What I did say was this—that in dealing with such maladies as typhoid fever, small pox, scarlet fever, and tuberculosis the public would be better advised to adopt preventive measures against those disorders than take medicines when they were sick with them.

From this observation I imagine that no medical man would dissent. I further quoted the following passage from Frankland's "Pasteur" (p. 129): "A day will come when in Berlin, in London, in Paris, man will not die of diphtheria, of typhoid, of scarlet fever, of cholera, of tuberculosis, any more than he dies in these cities to-day from the venom of snakes or the tooth of wolves." My solicitors have received from the authors of the advertisement an assurance that it has been discontinued.

I am, Sirs, yours faithfully,
FREDERICK TREVES.
Wimpole street, W., June 18th, 1907.

THE PUBLIC ATTITUDE TOWARDS CONSUMPTIVES.

To the Editors of THE LANCET.

SIRS,—It is certainly high time that an effort should be made to abate the unreasonable attitude of the public towards consumptives to which you call attention in one of the annotations in a recent issue of THE LANCET. You say, "The knowledge of the communicability of consumption from person to person so long disputed, but now so universally recognised, has resulted in a widespread misconception as to the mode of infection, in virtue of which no little hardship is inflicted upon the unfortunate sufferers from that disease," seeing that they are now, as Mr. W. K. McClure has shown, excluded from many first-class hotels in various health resorts.

I venture to think, however, that the medical profession itself is in the main responsible for this exaggerated attitude on the part of the public, owing to the extraordinary change during recent years in its own point of view in regard to this disease. Thirty years ago phthisis was commonly regarded as a generable affection springing up *de novo* in the individual and only in very exceptionable cases was it believed to be communicated from person to person. But the discovery of the tubercle bacillus soon began to lead to a complete change and to the promulgation of doctrines as to the mode of dissemination of the disease which are now gradually being shown to be erroneous.

Thus for a series of years it has been persistently taught that the disease is spread by contagion only, that it never arises *de novo*, and that its spread from person to person, which is regarded as a common process, is solely through the inhalation of tubercle bacilli contained in dust set free from dried sputa. This doctrine has undoubtedly led to a beneficial campaign against a disgusting practice and to the adoption of very desirable precautions in regard to the sputa. But of late years the experimental investigations of Cadéac,[1] as well as other researches, have shown that "the penetration of air-borne particles into the lungs is difficult if not impossible," while at the same time they have demonstrated how little the dried glutinous sputum lends itself to pulverisation and how soon the bacilli contained therein cease to be infective.

Yet this mode of dissemination, now so much discredited, is stated by you to be the only common mode of the spread of the disease from person to person. You say, "It cannot be too generally known that practically the only means of conveying infection from one person to another is from the drying of the sputum and its dissemination as dust containing tubercle bacilli, if we except intimate personal contact, such as kissing or occupying the same bed." If, however, this formerly supposed common mode of spread is, in fact, extremely rare we must all agree with you when you say—and it is an all-important point—"Given the most simple precautions in regard to the disposal of his sputum by the consumptive the danger of infection is almost non-existent."

Further, if the spread of phthisis from person to person is rare, and if infection through the lungs does not take place save in quite exceptional circumstances, it may well be asked, are we to suppose (1) that this terrible scourge comes to us almost only by way of the alimentary canal from the ingestion of infected milk or flesh, and (2) to suppose with Behring that in multitudes of cases tubercle disease germs taken in during childhood are capable of remaining latent for many years in the system; or (3) shall we admit that we have been much too hasty in throwing aside the old doctrine that phthisis is a generable affection, often arising *de novo*? From the latter point of view we have only to suppose that what prove to be tubercle bacilli are often only some of the common bacilli constantly gaining access to the body which, under special conditions, have undergone modifications in property in this or that tissue. Such possibilities will be found reconcilable with many facts otherwise hard to explain. Thus the present Gresham professor of medicine lately said in a discussion at the Royal Medical and Chirurgical Society (Feb. 26th): "Women in Egypt suckled their children for even two years, and all other milk was boiled, and among the cattle tubercle was rare, yet tuberculosis was common." And in my recently published work on "The Evolution of Life" I have in the last chapter indicated how bacteriologists themselves are finding that in numerous cases there are transitions both in form and in property between non-pathogenic and pathogenic bacteria.

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[1] Lyon Médicale, Dec. 10th, 1905.

As another instance showing how opinions are beginning to change at the expense of ultra-contagionist doctrines I may say that quite recently Dr. E. C. Seaton has kindly sent me his annual report as medical officer of health of the county of Surrey, in which after a most careful inquiry into the seasonal prevalence and the distribution of typhoid fever in the county he says (p. 39): "I believe that Dr. Pierce of Guildford and other careful observers in our county could furnish Dr. Bastian with examples of typhoid occurring in isolated country dwellings or under conditions where chances of infection could be definitely excluded." Further, he goes on to express his own opinion in these precise terms: "Personally I agree that cases occur from time to time in purely country districts which it is absolutely impossible to connect with any previous case, and which suggest the possibility of new origin (i.e., apart from human infection) through bacilli other than those which are regarded as the invariable specific cause of typhoid." *Mutatis mutandis* that is precisely what I am contending for in regard to phthisis and other communicable diseases.

I am, Sirs, yours faithfully,
H. CHARLTON BASTIAN.
London, June 8th, 1907.

THE MEDICAL SCHOOL OF ST. THOMAS'S HOSPITAL AND THE CONCENTRATION OF EARLY MEDICAL STUDY.

To the Editors of THE LANCET.

SIRS,—At the date of the recent election by the Faculty of Medicine of their representatives on the senate of the University of London, an impression obtained that St. Thomas's Hospital was no longer whole-hearted in support of an Institute of Medical Sciences at South Kensington. This impression is entirely erroneous and in view of the meeting of the faculty summoned for next week it seems desirable that it should be corrected.

St. Thomas's has throughout been consistent in its opinions on this question and still desires to afford its support to the senate in the steps which the University has taken, on the recommendation of the faculty, to establish an institute at South Kensington. The treasurer of St. Thomas's is a member of the committee appointed by the senate to obtain financial help for this scheme; the staff and lecturers continue to give their unanimous support to the proposal; they believe it to be one of the most important steps which can be taken and which are so urgently needed to strengthen the position of the metropolis as the chief centre of medical education in the United Kingdom.

I am, Sirs, yours faithfully,
J. HERBERT FISHER,
Dean of the Medical School, St. Thomas's Hospital.
June 17th, 1907.

BEES' STINGS AND RHEUMATISM.

To the Editors of THE LANCET.

SIRS,—In the course of an inquiry into the relation which I have been led to suppose may exist between certain manifestations of rheumatism and an abnormal production of formic acid in the tissues my attention has been called from time to time to a curious belief which appears to be prevalent in various parts of the country. This very interesting piece of folk lore is to the effect that frequent exposure to the stings of bees (as among bee-keepers) is both protective and curative for rheumatism. My correspondence leads me to conclude that this belief is widely disseminated and is probably familiar to many of your readers.

May I, therefore, be allowed the privilege of making the following inquiries (through your correspondence column) of any of your readers who are sufficiently interested in the question to send me such information as has come within their own knowledge? 1. Have you met with the belief that bees' stings cure or prevent rheumatism? 2. Do you know any case in which a rheumatic subject claims to have benefited in this way as the result of working among bees? 3. Are you acquainted with any reliable evidence which supports or explains the origin of this belief? 4. What were the characters of the "rheumatism" in question?

I am, Sirs, yours faithfully,
E. W. AINLEY-WALKER.
University College, Oxford, June 17th, 1907.

THE SOCIETY OF APOTHECARIES OF LONDON BILL, 1907.

To the Editors of THE LANCET.

SIRS,—This Bill having been passed by both Houses of Parliament now only awaits the Royal Assent to become law. It changes the title of L.S.A. to the more appropriate one of Licentiate in Medicine and Surgery and gives authority to the Society to confer the latter title by diploma on all of its Licentiates who have qualified since June 30th, 1887. Authority is also given to the General Medical Council to enter the new description on the *Medical Register*. Power is given to the Society to restore (with the consent of the Medical Council) the name of any Licentiate who may have been removed from the roll. Heretofore the Society had only the power to remove a name. The cost of obtaining this Act has been considerable and the council of the Association of Physicians and Surgeons of the Society of Apothecaries undertook to raise £250 towards it. Of this sum £222 5*s.* 6*d.* have been subscribed by the Licentiates, £25 was voted by the Association from its funds, leaving a deficit of £2 14*s.* 6*d.* The expenses of collection amount to £13 1*s.* 9*d.*, bringing the total deficit to £15 16*s.* 3*d.* May I ask those Licentiates who have omitted to send a donation to send their contributions to me without delay? It is scarcely fair that the members of the council of the Association who have had all the hard work, and who have already borne more than their share of the expenses, should also be saddled with this deficit.

I am, Sirs, yours faithfully,
A. RIVERS-WILLSON.
42, Wellington-square, Oxford, June 17th, 1907.

HÆMOGREGARINES IN SNAKES.

To the Editors of THE LANCET.

SIRS,—In the abstract of the paper on Hæmogregarines in Snakes (read at the Pathological Society on June 4th) which you published in THE LANCET of June 15th you omitted Dr. C. G. Seligmann's name, although the paper was in fact a conjoint publication. I should be most obliged if you would mention this in your next issue.

I am, Sirs, yours faithfully,
LOUIS W. SAMBON.
Palace Gardens Mansions, W., June 18th, 1907.

THE WEST LONDON HOSPITAL DINNER.

To the Editors of THE LANCET.

SIRS,—In the account of the West London Hospital and Post-Graduate College dinner given in THE LANCET of June 15th, you say it was under the presidency of Mr. E. Lloyd Williams. It is a curious mistake to have made. There is a Mr. E. Lloyd Williams, but I was the chairman of the dinner and am the dental surgeon to the hospital.

I am, Sirs, yours faithfully,
H. LLOYD WILLIAMS.
Upper Wimpole-street, W., June 19th, 1907.

THE ASSOCIATION OF PUBLIC VACCINATORS OF ENGLAND AND WALES.

To the Editors of THE LANCET.

SIRS,—A meeting of delegates appointed by the 37 representative councils of the Association of Public Vaccinators of England and Wales was held in London yesterday. The delegates represented over 3000 members of the medical profession who are public vaccinators and the following was one of the resolutions passed at the meeting:—

> That this representative meeting of the public vaccinators of England and Wales emphatically protests against the provisions of the New Vaccination Order, which suggest the reduction of the existing minimum fees to public vaccinators and points out that, although the Departmental Committee reported that if the public vaccinator were made an officer, only removeable with the consent of the Local Government Board and eligible for superannuation, it might be fair to make some reduction of fees; the new Order not only refuses to the public vaccinator the position which is his just claim, and leaves him still under contract without right of appeal; but also reduces the minimum fees for domiciliary vaccination even lower than the committee suggested.
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> That in the opinion of this meeting it is impossible for the work to be remunerative at the minimum fees in any district in England and Wales under existing circumstances, and that the proposed reduction

would be an instance of sweating of medical men such as can scarcely be exampled in any other branch of the public medical service.

That this meeting looks with the gravest apprehension upon the effect of such inadequate fees as are suggested, feeling that public vaccination in England and Wales cannot be maintained at its present level of efficiency upon such terms.

I am, Sirs, yours faithfully,
CHAS. GREENWOOD.
Mitre-court-buildings, Temple, E.C., June 19th, 1907.

OF MEDICO-LEGAL INTEREST.

To the Editors of THE LANCET.

SIRS,—On June 8th a patient of mine was taken in labour at 1 A.M. with her first child. Her husband fetched the "nurse" at 2 A.M. who said that she "would not be wanted for hours" and left the house. At 5 A.M., while my patient was standing, the baby was born and fell on the floor, the cord breaking. The poor woman jumped into bed, but neither she, the husband, or an old woman in the house knew how to tie the cord. On my arrival at 5.25 I found there had been a good deal of bleeding from the cord, while there was an extensive bruise on the head of the infant. Had my patient been a single woman and had the baby died it is quite conceivable that her story might not have been believed and she might have had to stand her trial for murder. For this reason I think the case is of sufficient interest to justify record.—I am, Sirs, yours faithfully,

June 11th, 1907. A. G. P.

NEW VACCINATION LEGISLATION.

(BY A PUBLIC VACCINATOR.)

THE two principal officials of the Local Government Board have both won their political positions as paid nominees of two of the most highly organised trade unions in England. Perhaps the finished knowledge of trade unionism possessed by both Mr. Burns and Dr. Macnamara has enabled them to gauge the weakness of resistance of a poorly paid but honourable profession which has not yet stooped to trade unionism. Nothing else could have induced these two gentlemen to compel public vaccinators to work for wages which no member of the Amalgamated Society of Engineers or the School Teachers Union would be allowed by those bodies to accept.

Imagine the storm which would have arisen in the House if Mr. Haldane had proposed to Parliament that the wages of the artisans of Woolwich Arsenal should be suddenly reduced from 30*s.* to 15*s.* per week. But without reference to Parliament Mr. Burns lowers in this proportion the earnings of a large body of men by his own personal authority. For though few of the public know that the "Local Government Board" is a non-existent body which never has met, they were reminded of this fact a few weeks ago by Mr. Burns himself, who stated in answer to a question in the House that the Board had never been convened since it was established and he had no intention of ever convening it. Mr. Burns is the "us" of the new Orders and his decisions, issued as Orders in Council, have the effect of Acts of Parliament. They can only be discussed in Parliament on the Estimates, if they are ever discussed at all, and they may be framed, as in the present instance, in direct opposition to the findings of a committee of his own department.

I am well aware that THE LANCET takes no account of politics, but it is inexplicable that such an autocratic method of bureaucratic administration should commend itself to professing democrats like the supporters of the present Government. There is every reason to doubt that the Local Government Board has any intention of protecting the public vaccinators in their struggle for a decent remuneration. The really important, in fact the only important, clause in the new Order is that which reduces the minimum fee for successful vaccination of an infant from 5*s.* to 3*s.* 6*d.* in country districts and to 2*s.* 6*d.* in urban districts of more than 50,000 inhabitants. It may be urged that these fees are "minimum" fees and that larger sums may be paid (as they are now paid) in excess of those minimum fees. But in spite of the recommendations of the Departmental Committee of 1904 the public vaccinators have been given no permanent tenure of their offices. They are therefore liable to termination of their contracts at a month's notice, and where boards of guardians choose to enforce the minimum rate of pay there is no power to compel them to pay more except the Local Government Board, which is Mr. Burns. The agitation in 1904, which led to the appointment of the Commission on Expenses, clearly showed the attitude which was, and will be, adopted by the bulk of boards of guardians, and I regret to say that the new Order indicates too clearly the attitude which will be adopted by the Local Government Board. Consider the work which has to be undertaken and completed for 2*s.* 6*d.* The public vaccinator has to check off and copy Form H which contains four columns of detail and return it to the vaccination officer, then to fill in and send notice of intended visit to each parent to call by appointment on a given day to vaccinate the child, and revisit the case the week after, as well as to fill in and despatch a certificate, and keep a register (which must be filled up every day) containing 19 columns of details. If the parents refuse his services the vaccinator gets nothing for his trouble. If they are out he must call again, and in many districts they always are out, of *malice prepense*. If the child is unfit to be vaccinated the vaccinator must fill in another certificate and call again. The *minimum* number of visits which must be paid is two; the time occupied in vaccination is at least 20 minutes, for scrupulous antiseptic precautions must be observed; and the outgoings in dressings amount to about 6*d.* per head, and an average of 1*d.* per head in postage. From the evidence laid before the Commission it was clear that an average of three and a half to four visits is made by public vaccinators for every fee which they receive, so that in urban districts these gentlemen are to be paid 6*d.* per visit when their out-of-pocket expenses are deducted; in addition to the time taken to reach the child's home, which averages a quarter of an hour each way, the actual operation takes 20 minutes per case and the clerical work 15 minutes, for after vaccination is complete there are forms to despatch as to result and forms for demanding fresh lymph. A trade union joiner earning 6*d.* an hour is better paid.

The subclause (*e*), Article I., 3, is just in principle but goes too far. Under the original Order of 1898, payment was made for each case of vaccination or revaccination irrespectively of the number vaccinated at one sitting and under one roof. This had practically no bearing upon primary vaccination but had a very important bearing in epidemics of small-pox, when whole families were revaccinated together. Thus a vaccinator who received an extra-distance fee of 7*s.* 6*d.* per head for the journey and operation received £3 7*s.* 6*d.* for revaccinating a family of five persons at the same time. This rate of payment was in most instances excessive. But the extravagance might have been entirely prevented if boards of guardians had been properly alive to their powers and established temporary stations in rural districts. They made no attempt to do so, and the Local Government Board made no attempt to instruct them, with the consequence that during the epidemic of 1901–02 the bills for revaccination in many areas were 300 per cent. higher than they should have been. Owing to its obscurity it will be as well to quote *in extenso* the article which seeks to remedy this undue expenditure, and (if I read it aright) it effects its purpose in a trenchant manner.

> *Article I., 3, (e).*—Except so far as this subdivision otherwise provides nothing in paragraphs (*b*), (*c*), and (*d*) of this subdivision shall apply to any case in which during a period of twenty-four consecutive hours successful vaccination or successful revaccination has been performed by the public vaccinator upon two or more persons at one and the same house, or on any premises (other than the surgery of the public vaccinator) whereon those persons were together present at any time during the aforesaid period.
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> In every such case the amount to be paid to the public vaccinator shall, in respect of the first person vaccinated or revaccinated, be the sum which being not less than the sum specified in such one of the rules hereinbefore set forth as is applicable to the case of the person is fixed in the contract approved by us, and in force for the time being, or, in any case to which subdivision (1) of Article 5 applies, is fixed by an instrument executed in pursuance of that subdivision, and in respect of every other person vaccinated or revaccinated the amount to be paid to the public vaccinator shall be such a sum as is fixed in the contract approved by us and in force for the time being, or such sum as in any case to which subdivision (1) of Article 5 applies is fixed by an instrument executed in pursuance of that subdivision.

The reference to Article 5 subdivision (1) applies to the article in the Order of 1898, not the present Order, though this fact is not named. If this clause means anything it means that whereas a vaccinator is to get 2*s.* 6*d.* a head for vaccinating at his own house, if he goes elsewhere to revaccinate a family he will only get the 2*s.* 6*d.* for going there and vaccinating the first person and such a sum or the second and other persons as is to be fixed in the ontract. The language may be ambiguous but the inten- ion is obvious; such a sum will be considerably less than s. 6d., at best it will be 1s. 6d. By what species of logic a ee of 2s. 6d. per head is allowed for vaccinating at the vac- inator's own house and a lower fee for travelling an unspeci- ied distance to perform the operation it is difficult to perceive. n Article 3 (*b*) a new rule is issued that children over 12 nonths' old may at the request of their parents be vaccinated elsewhere than at the homes of the children. This is o save 1s. on the procedure, as the vaccinator will only et 2s. 6d. even in rural districts. But the vaccinator before e vaccinates must have regard to the provisions of sub- ection (4) Section 1 of the Act of 1898, which is to the ffect that he must satisfy himself as to the condition of the house in which the child resides. He is therefore expected to nspect the child's home, at whatever distance, and vaccinate for 2s. 6d. Article 6 (*a*) contains a new instruction to vaccina- ion officers the use of which is hardly apparent until he *meaning* is found in the final sentence in Form Q, which reminds the parent that the child will be four months old on a certain date and that unless a certificate be received ealing with the vaccination of the child within a week the child's name will be placed on the list H to be dealt with by the public vaccinator. The final sentence is: "If, however, you should propose some other arrangement for the vaccination of the child I shall be glad to be informed of the same." This is, of course, a clumsy and devious invitation to have the child vaccinated privately in order to lessen the expense of the public service.

In spite of the recommendations of the Departmental Committee that some relief in clerical work should be afforded to public vaccinators none has been given, with the very slight exception of the mechanical rearrangement in certificates B, C, D, and E; in fact, an addition has been made by the auditors of the board to their work of a very irritating character. They are expected to make duplicates of the lists sent them by vaccination officers (Form H) and to send them in with their accounts. This demand by the auditors is in my opinion quite *ultra vires*, as it is not specified in the Orders of 1898. The only attempt in the new Order to relieve the work of the vaccinators is to extend the period within which the child must be visited (after the notice of the vaccination officer that the child has not been vaccinated) from two weeks to four. This relief is practically worthless as regards work which lies at a distance, for the irksome feature of public vaccination is that it must be done by appointment and other work thrown over in its favour if necessary. But neither Members of Parliament nor the officials at Whitehall realise how difficult it is for general practitioners to keep appointments at distances, liable as they are to constant dislocation of any arrangements they may make. Some sensible modification of the clumsy forms of certificates which have been in use for so many years might have been made, but the slight alterations made in certificates B, C, D, and E, and referred to above, are almost valueless. The same useless repetition of places of birth and residence is demanded in spite of the fact that on the same paper is inserted the number of the entry of the child's birth in the registrar's book, which should be sufficient proof of identity in case of dispute.

This Order shows an extraordinary ignorance on the part of the official who issues it of the work performed by vaccinators and ignorance of the immense amount of wasted labour they have to perform and the long distance they often have to travel, for which they get no remuneration. In the scale sanctioned by the late Government this wasted work was considered and a moderate liberality of pay allowed. No attempt has been made to reduce the work, while the fees for urban vaccinators are halved and those of rural vaccinators nearly halved. I have already compared the future wages of the urban vaccinator with that of the second-rate artisan to the advantage of the latter, but the condition of the rural official will in many instances be far worse; the evidence given before the Commission proved conclusively that 30 miles was no uncommon distance to be travelled in connexion with one case. In many districts the minimum fee will be enforced and no support can be expected by the vaccinator from the Local Government Board. The man who is to maintain a stable and drive 30 miles for 3s. 6d. had better abandon medicine and keep a cab. There are many hard-working men in the large towns who have had practically to give up private practice to attend to their duties as public vaccinators; they are more than middle-aged, they can scarcely hope to build up a fresh private practice, and they are suddenly to be deprived of half their incomes with neither notice nor compensation. For they work in black coats and are not paid weekly wages.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.[1]

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from p. 1666.)

Experimental Investigations on the Production of Leukæmia.

DR. ZIEGLER (Breslau) said that he had made experiments on animals by exposing the spleen to x rays. He found that the destruction of the follicles of the spleen led to an increase of the mononuclear leucocytes in the blood and that the bone marrow underwent a lymphoid hyperplasia. A partial destruction of the spleen also led to myeloid leukæmia, but of temporary duration only. Destruction of the bone marrow, however, did not give rise to leukæmia. He was of opinion that normal blood was the result of a normal correlation between the spleen and bone marrow and that when this correlation became disordered leukæmia was produced. Injury to either of the two led to hyperplasia of the correlative element of the blood.

Estimation of the Quantity of Blood in the Living Body.

DR. PLESCH (Budapest) showed some apparatus which he devised for the purpose of measuring the quantity of blood circulating in the living body. He had arrived at the following results. The quantity of circulating blood in the human subject was 5 per cent., or $\frac{1}{20}$th of the weight of the body. The quantity of hæmoglobin in a healthy adult was 0·7 per cent., or $\frac{1}{140}$th of the weight of the body. Referred to the body weight the quantity of blood was from 7 to 8 per cent. in the dog, from 7 to 10 per cent. in the horse, and from 5 to 6 per cent. in the rabbit. Fat individuals had proportionately less blood than lean ones. For chlorotic patients the proportion varied between 7 and 10·8 per cent. of the body weight, while in anæmia caused by severe hæmorrhage it was from 4·6 to 6·6 per cent. In nephritic patients without œdema the proportion was increased to 9·9 per cent. of the body weight.

The Blood Pressure and the Amplitude of the Pulse in Healthy Persons.

DR. HESSE (Kissingen) using Recklinghausen's tonometer has made investigations of the blood pressure in healthy persons. He found that in the recumbent position the systolic and diastolic pressures were decreased, the diastolic in a higher degree, so that the amplitude of the pulse became smaller. The taking of food and fluids increased the blood pressure and the frequency of the pulse, showing that the work done by the heart was increased. On standing up the systolic pressure was less increased than the diastolic pressure, the amplitude of the pulse becoming smaller. Active exercise of short duration caused an increase of the frequency of the pulse and the diastolic and systolic blood pressure, the work done by the heart therefore becoming greater.

The Influence of Adrenalin on the Heart and the Vessels.

DR. GROBER (Jena) said that he had administered adrenalin to guinea-pigs for the purpose of examining its influence on the heart and especially on the left ventricle. He found that a long-continued administration of adrenalin produced in addition to other alterations in the organs hypertrophy of the heart. The thoracic aorta became rigid by necrosis of its walls and hypertrophy of the left ventricle was the consequence. This experiment showed that an isolated necrosis of the aorta might produce hypertrophy of the left ventricle.

DR. FALK said that he had found that the arteriosclerosis produced by injections of adrenalin might be prevented or hindered by the simultaneous injection of other substances, such as bouillon cultures of staphylococcus aureus, oil of turpentine, aleuronat, iodipin, and oil of sesame. All these substances produced an increase of the leucocytes in the blood which very probably had an action antagonistic to the process leading to necrosis of the vessels. The necrotising effect of adrenalin was, on the other hand, very much increased by subcutaneous injections of substances such as croton oil and the toxin of staphylococci. A temporary increase of the blood-pressure was necessary as a predisposing or preparatory condition for the alterations of the vessels. Mechanically produced increase of the blood-pressure, together with the injection of other toxic substances, had the same effect as injections of adrenalin.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medizinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

The Differential Diagnosis between Cardiac Hypertrophy and Pericardial Effusion.

Dr. WOLFFHÜGEL (Landshut) said that even small amounts of pericardial effusion and cardiac hypertrophy might be recognised by the occurrence of characteristic alterations of the position of the anterior borders of the lungs. The examination must be performed with the patient in the erect and in the horizontal positions successively. If in the erect position the lingula was displaced and the right border of the heart was found under the sternum and if in the horizontal position this border was found on the left side of the sternum and the internal border of the superior lobe of the left lung was displaced upwards and to the left a small pericardial effusion was present. If in the angle between the right border of the heart and the liver percussion gave a dull sound which disappeared in the horizontal position and if in this position the left border of the superior lobe was displaced upwards and outwards the diagnosis of pericarditis was absolutely certain and enlargement of the right ventricle was excluded.

Inadvisability of Gymnastic Exercises in Myocarditis.

Dr. WACHENFELD (Nauheim) spoke against the use of gymnastic exercises in myocarditis. He considered that such exercises were not only unnecessary but even mischievous and that gymnastics in every form, whether resistance exercises, or exercises in which mechanical apparatus or electricity was employed, ought to be avoided, especially when the metabolism in the muscular substance of the heart was reduced.

The Secretion of the Pancreas.

Dr. BICKEL (Berlin) said that the pancreatic secretion was dependent on nervous influences, which might either hinder or promote the flow. By offering food to hungry animals the secretion was increased but if the animals from any cause became angry it was hindered. Apart from dietetic considerations the secretion might be affected by drugs and mineral waters. Secretin, hydrochloric acid, pilocarpine, alcohol, tincture of cinchona, and solution of common salt had the effect of promoting the secretion, whilst atropine, morphine, opium, bicarbonate of sodium, sulphate of magnesium, sulphate of sodium, and most of the alkaline mineral waters hindered it. The secretion of the pancreas depended in some degree on the production of hydrochloric acid in the stomach, and if this latter function was interfered with the pancreas suffered also—a circumstance which must be considered in the treatment of the disorders of digestion.

Dr. ERNST MEYER (Halle) recommended for rectal feeding an enema of cream mixed with pancreatic juice, by which means a better absorption of the cream was obtained. An enema consisting of cream, peptone, and pancreatin had a high calorific value; it was easily prepared and did not irritate the intestine.

The Importance of Water for the Physiological Disintegration of Fat.

Dr. HEILNER (Munich) said that by experiments conducted in Voit's respiration chamber it had been proved that the administration of water to a hungry dog increased the physiological disintegration of fat by about 9 per cent. and also increased the nitrogen in the urine. These phenomena were absent when the water administered was required in the organism for some other definite physiological purpose. This was the case when, together with 150 grammes of water, 32 grammes of dextrose were given, so that the water was used to dissolve the latter; similarly when water was given to animals at a temperature of 33° C. in the chamber it served to replace the water lost by perspiration. The conditions were nearly the same for the physiological disintegration of albumin. From this it might be inferred that an abundant supply of water had a specific dynamic action on the katabolism of the living tissues.

The Digestion of Albumin in the Body.

Dr. LOMMEL (Jena) said that after a dog had received an intravenous injection of pig's serum the nitrogen appeared in its urine in the form of urea. Dogs, however, did not assimilate the albumin of an animal of their own species, and if such albumin was administered, even in great quantities, to hungry dogs the nitrogen of it did not appear in their urine in the form of urea. It had been found that graminivorous animals assimilated the serum of animals belonging to other species only after being immunised against it. Dogs, however, assimilated the serum of animals belonging to other species at once.

Chronic Poisoning by Manganese.

Professor JAKSCH (Prague) said that he had described in the year 1901 three cases of poisoning by manganese, the principal symptoms being convulsive laughing and crying, walking backwards, exaggeration of the reflexes, and symptoms of mental aberration. In 1902 a new case came under his observation in which, instead of the convulsive laughing and crying, the patient's face showed a mask-like expression. In 1907 a workman employed at the same factory from which the other cases had come presented himself. He was in a state of great mental excitement, walked backwards, and had the characteristic gait of manganese poisoning. Convulsive laughing and crying were absent. The visual field was greatly reduced. The patient recovered within 20 days under the use of high-frequency currents. Possibly the case was one of a functional neurosis—manganophobia. The toxic effects were produced by the manganous salts only.

Myasthenia Pseudoparalytica and Hyperleucocytosis.

Professor PEL (Amsterdam) mentioned the case of a woman, 38 years of age, who showed the symptoms of Erb's disease, including the characteristic physiognomy, ptosis, diplegia facialis, dysphagia, difficulty of utterance, myasthenic reaction, and attacks of dyspnœa, but no atrophy of the muscles. The cause of her illness was extreme physical over exertion, combined with mental depression. A remarkable feature of the case was that on the days when the patient felt dull and miserable there was an enormous increase of leucocytes in her blood, the number reaching 16,000 in a cubic millimetre, whereas on the days when she felt tolerably well there were only from 6000 to 7000 in a cubic millimetre. Professor Pel was of opinion that this leucocytosis was caused by chemotaxic poisons, which had also an unfavourable effect on the general state of the patient.

The Treatment of Aphasia.

Dr. GUTZMANN (Berlin) said that the results of the treatment of aphasia by systematic exercises even in elderly patients were generally good. Exercises should be begun when the aphasia had continued for three months or six months, provided that the general state of the patient was good and the intellect clear. Young persons, of course, gave better results, but patients between 40 and 50 years of age had been successfully treated. Neither the duration nor the intensity of the aphasia was a contra-indication against the exercises and Dr. Gutzmann mentioned a case in which he had successfully treated cortico-motoric aphasia of ten years' duration.

Neuroses of Military Men after a Campaign.

Dr. HONIGMANN (Wiesbaden) described under the name of "Kriegsneurosen" nervous troubles observed by him in Russian officers who had been wounded during the war with Japan. The symptoms were—like those observed in traumatic neurosis or the "railway brain" of civilians—partly of a neurasthenic and hysterical, and partly of a hypochondriacal character (hysterical monoplegia, hyperæsthesia, hypoæsthesia, and hemianæsthesia). In many cases the nervous troubles depended on physical alterations of the central nervous system although not on local affection of the brain. The treatment of these nervous troubles had generally a better result than in cases of traumatic neuroses after accidents in factories or workshops.

The Influence of Certain Drugs on the Temperature of the Living Body during Exposure to Heat.

Dr. WINTERNITZ and Professor VON MERING (Halle) said that they had examined the course of the body temperature during exposure in an electric light bath with and without the administration of antipyretics, such as phenacetin and salicylate of sodium. They had found that the temperature was the same in both events. It was therefore proved that on exposure to a high temperature the thermo-emissive power of the body was so adjusted that no further effect oduced by antipvretics. Injections of atropine and pine had no influence on the temperature, a fact proved that what influenced the temperature was not sible liquid perspiration but a certain degree of re of the skin which was not suppressed by atropine.

SOME TURKISH LAZARETS

OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

Reproductions of Photographs taken by the Author.)

VII.[1]

THE CAMARAN LAZARET (*continued*).

of Communication.—Lack of Telegraphic Communica- n with the Mainland; New Cable since Laid Down.— e Telephone.—The Décauville Railway and Rolling- ck.—The Machinery Building and its Contents — neral Depôts; Coal Depôt.—Installation for Manu- turing Bricks, Tiles, Concrete Blocks, &c.—Proposals nnected with the Administration of the Lazaret.—The lue of the Indian Rupee.—Total Estimated Cost of the roposed New Works.—The Sanitary Control of Ships rrying Pilgrims to and from the Hedjaz.

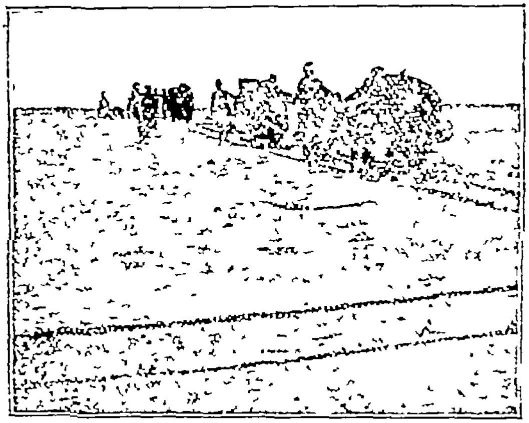
E successful working of a large institution like the ran lazaret must depend to a considerable extent on the nce of efficient and rapid means of communication— y, between the lazaret and the central controlling body onstantinople; and, secondly, between the different ons of the lazaret itself.

rmerly the island of Camaran was connected with the ian mainland by a telegraph wire. Telegrams from tantinople went by way of Perim to Sheikh Said (on the land opposite Perim) and thence to Hodeidah and aran. The cable crossing the straits from Ras-el-Bayadh e island was laid down in February, 1893. It seems to worked well for about five years, indifferently (requiring tant repair) for the next three years, and in 1902 topped working. In 1903 the cable was taken up found to be in a very bad condition; some incomplete irs were effected but a month later communication again interrupted and a little later still the cable removed altogether. At the time of the Commission's , to Camaran the island was quite cut off from the main- l and telegrams had to be sent to and from the latter by bouk. The delays were serious not only at that end of line but also, it would seem, elsewhere, and it sometimes : three, four, or five days for a telegram to pass between naran and Constantinople. The representations on this nt made by the Commission on its return have had sfactory results: the cable between the mainland and naran has been relaid and better arrangements have been le. The result is that telegraphic communication between lazaret officials and the central administration in Con- ntinople is now both much more certain and much more id than it was in the early part of the year, and the gain efficiency in the administration of the lazaret should be respondingly great.

For the purposes of internal communication between ferent parts of the lazaret itself there exists at present ly the Décauville railway. There was formerly a telephone stem connecting the central offices with the medical man's use in each cordon. It was put up in 1898, but for lack of lled attention it has ceased to work; indeed, the only aces of it left are a few of the receivers much spoilt by the imate. The Commission proposes to re-establish the lephone system connecting the central offices with each rdon, with the three disinfecting blocks, and with the spitals, and to put it in charge of a skilled employee who ll be responsible for its proper working and upkeep.

The railway is a Décauville line, of 60 centimetres (about feet) gauge. It has been in use for some nine or ten ears and has suffered considerably from the action of e climate and of the salt and often damp sand on which it is laid. Much of it is to be relaid, and two kilometres of new lines have been bought and are being gradually put down in place of the old. The new lines weigh nine kilogrammes the metre, the old ones only five; it will thus be possible to run a small engine on the new line if desired, an improvement that it was impossible to introduce on the existing one. A large new building is also being put up to shelter the rolling stock in place of the poor arish sheds hitherto employed for this purpose. The rolling-stock consists of 17 coal-trucks (two capable of holding half a ton, and the other 15 of one ton capacity each); 42 trucks for carrying the pilgrims' luggage (some of them are seen in Fig. 26); 11 tanks for sewage removal (as described in Article V.); one pump on wheels for use at the cesspools; two carriages for the use of the *personnel*, one of six places and the other of three; and four water-cisterns. In addition there is the moveable disinfecting stove mentioned in Article III.; and a crane mounted on a truck, the wheels of which are, however, too wide apart to run on the existing line. At present manual labour is employed to push these various objects along the line; the question of the purchase of a locomotive is adjourned for the present. With the disappearance of the existing system of excreta disposal and the reduction of the whole length of the lazaret by about one half the length of the railway will be very greatly diminished. Its plan also will of necessity be somewhat modified, with the modification of the general plan of the lazaret, as described in earlier articles. Branches will run from the head of each landing jetty to the disinfecting blocks; the main line will connect the latter with the cordons, and these with the central administrative buildings; and other branches will run to the hospitals, the Mervani jetty, and other outlying portions of the lazaret.

FIG. 26.



The Décauville railway; trucks with pilgrims' luggage.

The remaining buildings of this lazaret do not require any lengthened description. The large stone structure known as the "machinery building" stands on a cliff close to the northern shores of the Camaran Bay. It contains the distilling apparatus, the ice machine, the pump for raising sea water, and the generators and motors for working these machines. In an annexe is the forge; and there are several other rooms, two of which are occupied by the head engineer, and one is a workshop containing drills, circular saws, lathes, and other instruments, all of which are worked by steam. These various machines are of the greatest use in the repair and upkeep of the distilling and ice apparatus, the railway, the stores, and the many other installations of the lazaret.

There are several large store-rooms (*magasins*) in the lazaret. One occupies the ground floor of the residency described in Article VI. Another is a large stone building, with iron roof, on the Mervani plain. An almost identical building is used for a coal-store; it is situated close to the Mervani jetty; it can hold as much as 500 tons of coal and a branch of the Décauville railway enters it at one end and leaves it at the other. There are also several arishes used as stores.

Finally, the only group of structures that need further mention are those connected with the manufacture of various building materials employed in the original construction and in the upkeep of the lazaret. When the "refection" of this lazaret was undertaken some ten years ago a series of costly machines was installed on the island with the object of preparing on the spot the bricks, tiles for roofing, floor-tiles, concrete blocks, and other materials required for the new buildings. Most of these machines still exist, though they are now rarely, if ever, employed. The bricks manufactured on the island never proved very satisfactory, and as an excellent building stone is found in practically unlimited quantities on the island itself and on the adjoining mainland the Commission recommends that in future all "pucca" buildings shall be constructed of stone. A considerable stock of unused bricks exists in this portion of the lazaret; many of them are of bad quality but the good ones can be employed for inner walls in the new buildings that it is proposed to put up. In the climate of Camaran bricks do not seem to do well for outer walls; when so employed it has always been deemed necessary to cover them with a thick coating of lime plaster, as they crumble away if exposed to the air. But (as shown in several of the illustrations that have appeared in earlier articles) the plaster tends to fall off, leaving the bricks exposed all the same. In some buildings, notably in many of the latrines in the cordons, the outer coat of plaster has completely disappeared and the brick walls are crumbling to pieces. In other buildings, where better bricks and perhaps better plaster have been used, the condition is less marked. The falling of the plaster is further contributed to by the absence of a damp proof course in any of the buildings. This expedient of preventing damp in outside walls seems to be quite unknown in this country. The tiles for roofing and flooring and the concrete blocks (for the jetties, &c.) manufactured at Camaran have given rather better results than the bricks.

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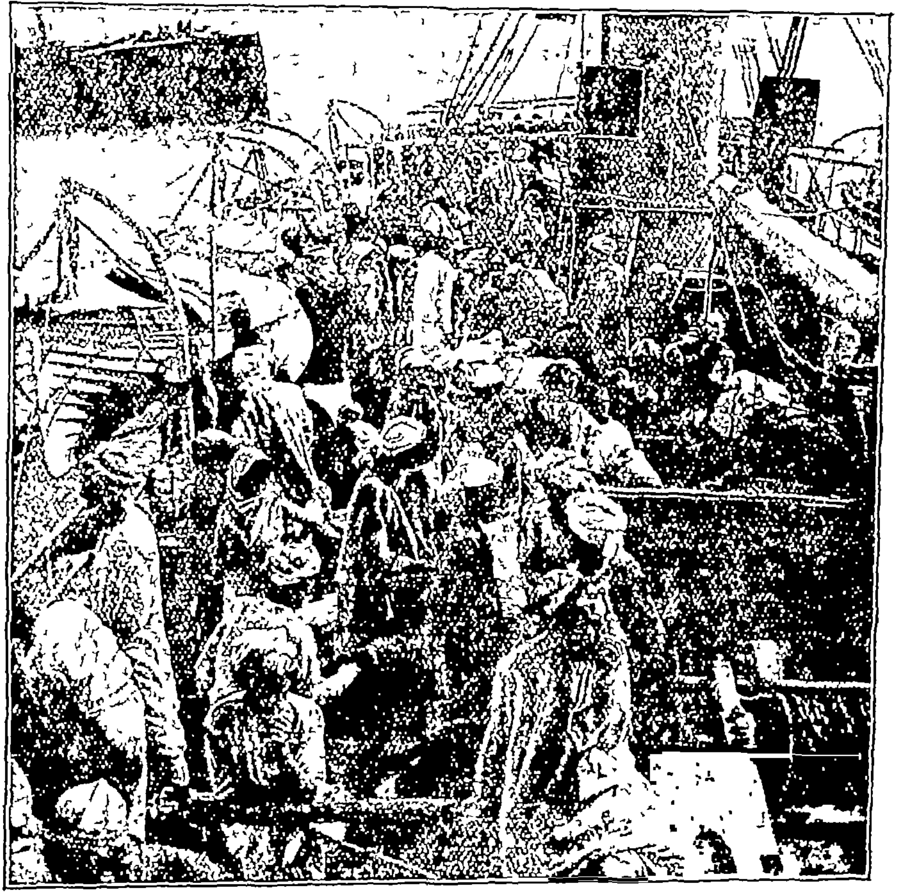
[1] Nos I., II., III., IV., V., and VI. were published in THE LANCET of pril 27th (p. 1165), May 4th (p. 1251), 11th (p. 1317), and 18th) 1309), and June 1st (p. 1515), and 8th (p. 1607), 1907, respectively.

This completes the description of the principal buildings and installations of the lazaret of Camaran. The Commission's report deals, however, not only with the buildings and installations and proposals for their improvement and completion, but also with a large number of questions of various kinds connected with the administration of the lazaret. Several modifications are proposed in the *personnel* of the institution, the most important of which are the nomination of an assistant director, the assigning of definite responsibility to individual employees for the upkeep of the various buildings and installations, and the formation of squads of trained labourers to be placed under the orders of those employees. The lazaret as a whole has hitherto suffered considerably from insufficient attention to the upkeep and repair of the buildings of which it is composed; the Commission lays great stress on this point and makes a series of recommendations for remedying the defect in future. Among other things it advises placing at the disposal of the director a sum of P.3000 (£T.30) a month for urgently needed repairs and purchase of materials, a sum which he will be at liberty to spend without asking the preliminary consent of the Constantinople Board of Health (which often causes delay) and on the sole condition of accounting satisfactorily for its expenditure at the end of the month.

Another valuable result of the Commission's labours has been in connexion with the rate of exchange of the Indian rupee when taken in sanitary dues at Camaran or Jeddah. Hitherto that coin has been taken at the value of only 5½ piastres (11*d.*), whereas its real value is 16*d.*, or 8 piastres. Its exchange value with the local sarafs, or money-changers, varies between 7 and 7¾ piastres. Its being taken at the low rate of 5½ piastres by the sanitary authorities caused a very serious loss to Indian pilgrims (who are called upon to pay over 70 piastres for ten days' quarantine). Moreover, the marked difference in the two local values of the rupee led to no little speculation and abuse. This will now be

FIG. 27.



Deck of a pilgrim steamer approaching Yanbo.

done away with, as the Board has decided to take the rupee for quarantine dues at 20 paras (*1d.*) less than the local rate of the day with the money-changers. It will henceforth, therefore, be taken at from 6½ to 7¼ piastres, instead of 5½ as hitherto.

Estimates of the cost of each new work proposed are added in the Commission's report. It will suffice here to mention the total sum, which is placed at £T33,000, or £30,000 sterling. Detailed recommendations are also made as to the best method of carrying out the new works. It should further be added that the majority of the proposals made by the Commission have been approved and adopted by the Board of Health and that several of the more urgently needed works (involving an outlay of some £3000) are to be put in hand at once. For the other more costly works new credits will have to be obtained and this must necessarily involve a certain amount of delay.

In this and the preceding articles I have dealt at considerable length with the great lazaret of Camaran. It is in that lazaret that the large majority of pilgrims coming to the Hedjaz from beyond the Straits of Bab-el-Mandeb undergo a period of quarantine together with the other measures described in an earlier article. During that period the ships which take them to the island are thoroughly cleansed and disinfected, and the crews are landed and undergo a douche-bath, while their clothes pass through the disinfecting stove. At the expiry of the quarantine period the pilgrims are once more put on board sambouks and sail or are towed back to their now clean and disinfected steamers. From Camaran the steamers proceed directly to Jeddah; the voyage lasts about 48 hours. A few words may be said here as to the sanitary control of the pilgrim ships themselves.

The sanitary condition of the pilgrims during their voyage to the Hedjaz ports is mainly regulated by a code of rules known as the "*Règlement spécial* applicable au Pèlerinage du Hedjaz," which is annually revised by the Constantinople Board of Health. Ships sailing from Indian ports, which form a considerable majority of all pilgrim ships from the south, come under a set of regulations issued by the various Indian Governments under the title of "General Instructions for Pilgrims to the Hedjaz," which are based mainly on two Acts, the Pilgrim Ships Act of 1895 and the Bombay Protection of Pilgrims' Act of 1887. These various codes of regulations correspond very closely in their main provisions with the rules embodied in successive international sanitary conventions, and codified in the last convention, that of Paris, 1903. These rules deal with such questions as the amount of space allotted to the pilgrims between decks (in most instances 16 square feet per pilgrim); the provision of latrine accommodation, of water-supply, of hospital beds, of a distilling apparatus and a disinfecting stove, questions concerning the fitness of the ship to go to sea, the presence of fire-extinguishing apparatus on board, and many other similar questions.

A considerable number of pilgrim ships contravene one or more of these rules each year, but it is satisfactory to note that the Indian Acts and regulations are very strictly enforced and that the ships taking pilgrims from Indian ports—as also those from Further Indian ports—are among the cleanest and most sanitary of all steamers going to the Hedjaz. *Fig.* 27 shows the deck of a small pilgrim steamer of some 450 tons; it was the steamer by which I travelled from Jeddah to Yanbo and the photograph was taken at the moment of arriving at the latter port.

(*To be continued.*)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Schools for the Feeble-minded.

AMIDST the clamour and the clangour of the controversies raging round and about the education question it is cheering to turn to the good work done in Manchester to help those whose mental feebleness calls for sympathy and whose future should give thought to those anxious to avert the mental and physical degeneracy that threatens a large section of the nation. The fourth annual report by Dr. H. Ashby, who has from the first given most valuable help to the scheme, addressed to the Manchester education committee, gives some valuable and interesting information as to the schools for the feeble-minded and for cripples. There are three of these special day-schools in Manchester, in one of which there are at present 90 children and in the two others 80 and 95 respectively. In addition to these 40 mentally defective children are inmates of the Sandlebridge boarding schools belonging to the Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded and 43 suffering from epilepsy are at the Manchester David Lewis Epileptic Colony School, near Alderley Edge. There is also at Swinton House a residential school for the physically defective in which the accommodation was increased during 1906 from 30 to 60 beds. At the close of 1906 at the three schools for the mentally defective there were 238 in attendance, 159 boys and 79 girls. Dr. Ashby pays a warm tribute to the teachers in these schools, and it may well be imagined what "enthusiasm and interest" must be required in this special work. If these qualities are absent the more than usual trials and discouragements must be almost heart-breaking, but Dr. Ashby says that "the teachers have interested themselves not only in the education of the children but in every phase of their lives, whether at school or at home." It was at first difficult to persuade parents to send their children to a special school but that difficulty is lessening and the time is looked forward to when parents will recognise the value of these schools. But there is a class of children lower in mental power than those for whom these schools are doing such good work; and the question is asked, What must be done with these? They do not benefit or gain lasting advantage by attendance at a day-school. They come up for examination in considerable numbers, most of them have to be rejected but some are admitted in hope of their improvement, but it generally turns out that even these have to be discharged. It seems hard to refuse admission or to discharge them afterwards, but Dr. Ashby's experience is that "the lower class defective learns nothing, or next to nothing, of the value of figures or words, even after a year or more of teaching, and time given to them, in these respects at least, is largely thrown away." But he remarks that they improve in conduct and behaviour and some of them in manual work. In his opinion the only solution of the question is "in the establishment of residential institutions, where the education and training would be purely manual, where the inmates by their work would make some slight contribution towards their maintenance." Without such care these children, as he says, are certain to "drift into the workhouse or recruit the criminal or chronic inebriate class." These degenerates, moreover, reproduce their kind which should be prevented, so that it becomes a matter of urgency to care for them during their whole lives. Dr. Ashby speaks encouragingly of the brighter children who in the course of time have learned to read an infant primer fluently, to add and to subtract sums of money, and to write a fairly good hand. But with them also the greatest advance has been in manual work, their drawing, moulding, woodwork, and knitting being "most creditable." As regards their future, "the great thing to recognise is their capacity for manual work under supervision." Dr. Ashby advocates the teaching of the simpler handicrafts by practical men to boys of from 14 to 16, and "domestic economy" to girls. This seems the most hopeful direction to take with these unfortunate derelicts. Last summer 80 of the children spent a happy fortnight at the country school at Mobberley, with much enjoyment and to their great benefit, and the experiment will be repeated this year. At the Swinton School for Cripples there were 63 inmates in all during the year. For the most part they were of average mental ability but backward from having had little or no systematic instruction. The greater number suffered from spinal or hip disease. Some few leave sufficiently well to go to work; some become too ill to learn, while others have to go to hospital, and if sufficiently recovered return to school. Very little medicine and no alcoholic beverages have been taken, while the food is plain and plentiful. Much more might be said of the efforts made to brighten the lot and to improve the prospects of these poor children, but the schools show what a wide field exists for the exercise of a sane philanthropy that will not only cheer the sufferers but will bring back in return many advantages to the country.

Street Accidents.

Three children were killed in Manchester the other day, and at the inquests held on June 17th it came out that the manner of their deaths was a very common one. The first, aged 16 months, was playing on the doorstep, but went to the roadway where he was knocked down by a lorry, run over, and killed. The second, aged three years, was playing on the footpath with her brother, when she ran in front of a post-office mail van, was run over, and died while being taken to the infirmary. The third, aged one year and nine months, was playing in the street and was knocked down by a lorry and killed. In none of the cases was the driver held to be blameable, and the coroner said it was not fair to them that parents should allow their children to play in the streets. But what are the parents in the "mean streets" to do? There are no playgrounds near to which the children may be taken. The mother, either from necessity or mismanagement, has, in many cases, to leave to others the care of her children while she is working. The obvious solution would be to provide more open spaces in poor neighbourhoods where the children would be safe, and perhaps to make it a punishable offence for parents or caretakers to allow these little children to play in the streets.

Old Rum Casks.

A rather unusual death from "misadventure," according to the verdict, occurred just lately. A Bury dyeing company bought some old rum puncheons which were left out of doors and the rain got into them. On the next day the man in charge drew off the liquid and took it home and at night he and some friends drank it in his greenhouse. All were affected by it and one became unconscious, was taken home on a wheelbarrow, and died about midnight. At the inquest a medical man attributed the death to acute alcoholism. The rum, as it must be called, was said to be between 28 and 30 points overproof. Old rum casks seem to retain for a long time their evil potency.

On Children's Processions and Excursions.

In an address given recently in Manchester Dr. A. C. Magian made some judicious remarks on the processions of children, that are supposed to be enjoyable and enjoyed, during Whitsun week. Whatever the weather may be they assemble in their thousands in Albert-square and afterwards walk through some of the principal streets. There is what looks almost like rivalry as to which of the religious bodies can show the greatest number, but it is judiciously arranged that members of the various bodies shall not walk on the same day. The same objections apply with even greater force to the long railway excursions it is now common for the schools to make at Whitsuntide. Those who have seen the poor little things, dressed often in the flimsiest clothes and with poor thin shoes, tired, wet, and cold, if the day should be damp or if it rains, as it not infrequently does in the neighbourhood of Manchester, will readily believe Dr. Magian's statement that he knew for a fact that hundreds of children had caught colds, if nothing worse, during Whitsun week and he was certain that many of these would develop pneumonia and other serious diseases. There is no doubt that the children look forward to these processions and excursions and invest them with all the delightful anticipations that the child mind can picture, but the anticipated pleasure turns out in very many cases to be a painful experience.

June 18th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Epilepsy: Work of the Home for Epileptics at Maghull.

THE annual meeting in connexion with the home for epileptics at Maghull was held on June 15th, when a large party of ladies and gentlemen were afforded an opportunity of visiting the institution and seeing for themselves the excellent work which is being carried on in the treatment of epilepsy. The Lord Mayor of Liverpool presided. Mr. J. R. Paton, who was unable to be present, sent a cheque for £100. The eighteenth annual report stated that 19 males and 17 females had been admitted during the year, the total number in the home on Dec. 31st, 1906, being 209, classified as follows: First class patients, five; second class, 52; intermediate class, four; and third class, 148. The usual kinds of work had been followed, that for the men being outdoor work in the fields and gardens whenever their physical condition allowed. Such men as were not physically equal to the hard work and exposure to weather which agricultural work called for were engaged indoors or under cover at joinery, &c., or as porters or messengers between the homes. The women, too, were engaged when possible in gardening, but for the most part the domestic work of the home, the laundry, the kitchen, and duties arising out of these fully occupied their attention. Hardly any of the patients had any knowledge of agricultural work before going to the home, but after a course of training and under effective supervision they were shown to be capable of doing satisfactory work. The farm supplied the home during the year with all the milk and vegetables required, as well as with a certain amount of bacon, eggs, and poultry, the total value of the food thus furnished for its own use being £690 and the outside sales £632. The farm account, unfortunately, showed a loss this year. The plan of making a small weekly allowance to those workers who had acquired some skill and did their work steadily proved advantageous, and gave a much-needed stimulus to the patients, who were without the motives urging to steady and continuous effort which act as an incentive in ordinary life. In the day school the young patients were taught "the three R's," kindergarten, light basket-work, &c. The children had also made collections of wild flowers and had learnt the names, and showed interest in their small gardens. In the evening continuation classes during the winter months there were about 153 adults on the register and the attendance and conduct were very good. The receipts from patients showed a considerable falling off, owing to the temporary reduction in the number of the first-class patients; but, on the other hand, economies had been effected and the maintenance account had worked out satisfactorily. The committee had now felt compelled to consider the question of making further provision for children, and it had been decided to erect a home to accommodate 30 boys and 30 girls at an estimated cost, including furniture, of £8000. Sir James Crichton-Browne, who was especially invited, addressed the meeting and said that the Maghull home was the first institution established for epileptics in this country, and, therefore, the pioneer in a work that was still greatly in need of extension, and he was present to show his appreciation of the admirable methods pursued in it. His impression was that epilepsy was increasing; the modern modes of life were more and more conducive to the instability of the brain and the higher nerve centres out of which epilepsy sprang. Already they were in possession of remedies which materially reduced that instability and explosiveness of the brain which gripped them. He particularly rejoiced to find in that home a medical staff who were animated by the true scientific spirit and took no despairing view of the evil with which they had to cope. Dr. William Alexander was satisfied by clinical and pathological observations that epilepsy was a curable disease and he quite agreed with him. It seemed to him that Dr. Alexander was on the right track, and should he succeed then the Maghull home would have conferred inestimable blessings on suffering humanity. Among the other visitors were Sir Edward and Lady Russell, the rector of Liverpool (Canon Kempthorne), Dr. William Carter, and Dr. J. M. Rhodes (Didsbury).

June 18th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Midwives Act in Cardiff.

THE Midwives Act is administered in Cardiff by the health committee of the city corporation with the medical officer of health, Dr. E. Walford, as executive officer. A woman inspector, who is a certificated midwife and is on the staff of the sanitary department, visits the residences of the registered midwives in the district and supervises their practice. During 1906 she found that among the 117 midwives on the register 85 had provided themselves with a case book, record book, washable dresses, a bag, and appliances. Of the remainder all but seven had case books and all but 11 had record books. 20 did not have washable dresses, bags, or appliances and four had not provided themselves with any of the articles required by the regulations of the Central Midwives Board. A course of training for midwives has been established by the University College of South Wales and Monmouthshire, instruction being given by Dr. Ewan J. Maclean, lecturer on midwifery to the College. During 1906 the course was attended by 39 pupil midwives from Cardiff and 50 from elsewhere. Practical training is also given in the maternity department of the Queen's Nursing Institute.

The Temple Memorial Home for Inebriates.

A home for male inebriates, which has been established by the Church of England Temperance Society at Cinderford in the Forest of Dean, was formally opened by the Bishop of Gloucester on June 11th. The house and surrounding grounds of 27 acres were purchased from the Crown. The total expenditure, including furnishing and alterations, has been about £5000, a sum which has been raised by voluntary subscriptions. The institution, which is intended to be a memorial to the late Archbishop of Canterbury, will replace a somewhat smaller home which has been established about seven years at Battle in Sussex. There is accommodation at Cinderford for 55 men, some of whom pay a weekly sum of 25*s.* and others 10*s.* 6*d.* There will be a domestic staff of seven persons, of whom five are men. As far as practicable employment will be found for the inmates. The report of the home at Battle for the year 1906 shows that during that period the institution was nearly self-supporting; indeed, if the patients had paid an additional 5 per cent. it would have been quite self-supporting. Of the 46 patients who left the home in 1906 it is said that 14 had been heard from and were believed to be doing well. The average time of stay in the home was nine months. The Cinderford house is now the only home for men which is administered by the Church of England Temperance Society, but the society has homes for inebriate women in different parts of the country, one being situated in Norfolk, one in Torquay, one at Herne Hill, and a fourth near Birmingham. The results at all these institutions are considered to be satisfactory.

An Action for the Recovery of Medical Fees.

In Camelford county court on June 13th Mr. E. J. Jerome of Camelford sued a lady for £43 for medical attendance on her brother. Evidence showed that the defendant had written and asked Mr. Jerome to attend her brother and that her solicitor had sent him sums of money on account. For the defence it was urged that the defendant was not responsible and that the charges were excessive; £25 had been offered in settlement but this the plaintiff had refused. His honour gave judgment for the full amount with costs, remarking that as the defendant had asked Mr. Jerome to attend her brother he was justified in looking to her for payment.

June 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Changes on the Staff of the Royal Infirmary, Edinburgh.

OWING to two members of the honorary staff—namely, Dr. Alexander James, senior ordinary physician, and Dr. C. W. MacGillivray, senior ordinary surgeon—having completed their term of office the managers have promoted Dr. William Russell, senior assistant physician, and Dr. J. W. B. Hodsdon, senior assistant surgeon, to fill the vacancies thus formed. Vacancies have thus been made for a new assistant physician and a new assistant surgeon. The candidates for the assistant physiciancy are Dr. Edwin Bramwell, Dr. W. T. Ritchie, Dr. D. Chalmers Watson, Dr. Edwin Matthew, Dr. J. D. Comrie, and Dr. J. Eason; and for the assistant surgeoncy Dr. J. W. Struthers, Dn. H. Wade, and Dr. W. J. Stuart. These posts are to be filled up this month but all the appointments mentioned date from Sept. 1st next.

Presentation to Miss Spencer.

At a meeting of managers of the Edinburgh Royal Infirmary held on June 10th, Miss Spencer, on her retirement from the post of lady superintendent, was presented by the members of the board with a silver tea service and tray "as a token of their high appreciation of her most efficient, valuable, and devoted services to the institution during 30 years, first as assistant lady superintendent and then for the past 20 years as lady superintendent of nurses."

The Health Report of Edinburgh for 1906.

This report has just been issued by the medical officer of health, Sir Henry D. Littlejohn. It contains some interesting statistics. The death-rate was 14·26 per 1000, practically the same as in 1905. The highest mortality was in the fourth week of November and the first week of April. The birth-rate was 22·41 per 1000; in 1901 it was 24·99; in 1891, 28·25; in 1881, 32·23; and in 1871, 34·89. Of the total deaths amounting to 4868, 862 were of infants under one year of age. As regards causes of death, tuberculous disease caused 591 deaths, as compared with 640 and 654 in the two preceding years; pneumonia caused 482 deaths and cancer 330; the deaths from the zymotic diseases were 258, as compared with 328 in 1905 and 690 in 1897. No deaths occurred from small-pox. The notifications of infectious diseases numbered 2147. The report is altogether one with which the city and its health officer may well be satisfied.

Complimentary Dinner to Dr. J. M. Beattie.

Dr. J. M. Beattie, who has for a number of years been senior assistant in the pathological department and also lecturer in bacteriology in the University of Edinburgh, was entertained to dinner by a large number of his friends as an expression of goodwill on the eve of his leaving Edinburgh to take up the duties of professor of pathology in Sheffield. Dr. P. A. Young occupied the chair in virtue of his being president of the Australasian Club. The toast of the evening was proposed by Professor W. S. Greenfield who spoke in highly appreciative and affectionate terms of Dr. Beattie. Sheffield is to be congratulated on the selection of Dr. Beattie who, while an accomplished pathologist, is also a most pleasant and affable colleague.

Glasgow Ear, Throat, and Nose Hospital.

The annual meeting of the subscribers to this hospital was held recently. Dr. Thomas Barr submitted the medical report which stated that an average of 46 patients were seen by the medical staff every day on which the hospital was open during the past year. An average of ten new patients was dealt with daily, or a total of 2806. In the treatment of these patients 533 operations were performed under a general anæsthetic. It is noteworthy that 1000 out of the 2806 new cases coming for treatment were children under 15 years of age. In connexion with the university course of lectures 58 students received practical instruction. The financial report showed an income of £785 and an expenditure of £1003, leaving a debit balance of £218.

The Glasgow Dental Hospital.

The annual report of this hospital shows that during last year the number of cases treated was 7728. As the hospital is only open for two hours on five nights of the week this gives an average of 28 cases each night. Of the total operations, the largest proportion were of a conservative character, there being 2665 extractions and 4206 conservative operations. The gratifying feature of the year's work was the increase in the number of students at the Dental School On Dec. 31st, 1906, there were 35 students on the roll, as compared with 27 at the close of 1905. In connexion with the finances of the hospital it seems surprising that only £70 were subscribed last year by the general public for the upkeep of the hospital, while of that sum only £2 were contributed by the working classes who benefit most largely by the institution. At the general meeting it was determined to appeal to the public more widely for funds on the ground that if the University were to be approached to grant a degree in dentistry they would require a more modern and fully equipped institution.

Sanitary Condition of Lower Renfrewshire.

In a report just issued for Lower Renfrewshire stress is laid upon the fact that during the last year there was an abnormal increase in the cases of infectious disease, the number of cases visited being 661 more than in the preceding year. While this remarkable increase was principally due to epidemic outbreaks of measles in almost every village in the district, there was also a decided increase in all the diseases with the exception of enteric fever, which has been gradually decreasing year by year until it has now almost reached the vanishing point.

Dunoon Convalescent Homes.

The new wing of the West of Scotland Convalescent Seaside Homes at Dunoon was opened on Saturday last by His Grace the Duke of Argyll. Designed in harmony with the rest of the buildings the block consists of a large number of bedrooms, directors' and medical officers' rooms, and apartments for the superintendent and the matron. Accommodation is now provided for 308 beds, the institution being one of the largest of its kind in the country. No fewer than 110,357 persons have received the benefits of the homes since they were instituted in 1869. The ordinary expenditure of the homes for the last three years has been £6500 and this will be materially increased by the extended accommodation now available. It is gratifying to observe that last year £3766 were subscribed by those connected with works, warehouses, &c.

St. Andrew's Ambulance Association (Aberdeen Centre).

At a meeting of the committee of this association it was reported that during the past year 13 classes had been held and that the number of pupils who had passed the examinations was 249. Colonel Douglass Duncan was reappointed chairman, Professor D. W. Finlay vice-chairman, and the Rev. Jas. Smith representative in the council of the association. The following were appointed examiners for the ensuing year:—Dr. William F. Croll, Dr. T. Fraser, Dr. Peter Howie, Dr. John Innes, Dr. Francis Kelly, Dr. W. R. Pirie, Dr. Alexander Ogston, Dr. J. Smart, and Dr. J. A. Watt, all in Aberdeen; Dr. Donald Campbell, Elgin; Dr. P. C. Garson, Huntly; and Dr. Duncan D. Mackintosh, Aboyne.

Aberdeen Public Health Matters.

At the last meeting of the public health committee of the Aberdeen town council a circular was submitted from the Home Office requesting the medical officer of health to supply certain information with reference to industrial employment. The medical officer reported that the death-rate for May was 13·15 per 1000, while the average death-rate for the same month for the last ten years was 17·4 per 1000. A subcommittee was appointed to make the necessary arrangements for the forthcoming congress of the Sanitary Association of Scotland to be held in Aberdeen in September next. This subcommittee met subsequently and arranged the programme for the congress. On Sept. 4th business will begin in the town hall, to be followed by a lecture delivered by some eminent member of the association. Lord Provost Sir Alex. Lyon will formally welcome the delegates on the morning of Sept. 5th and later the President will deliver his address. The visitors will then be entertained to a garden party or a drive by the corporation. The official dinner of the association will be held on the same evening. On Sept. 6th the delegates will, on the invitation of the town council, visit some of the public institutions in the city and in the evening the corporation will hold a reception. On Sept. 7th the visitors will in all probability visit Deeside or Donside.

June 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Sanitary Institute.

THE work of the Conference on Sanitation and Public Health, to be held in Trinity College, Dublin, from June 25th to 29th, will be divided into three sections—viz.: (1) Sanitary Science and Preventive Medicine; (2) Engineering and Architecture; and (3) Physics, Chemistry, Biology, and Meteorology. A reception-room will be opened at the Institution of Civil Engineers of Ireland, 35, Dawson-street, Dublin, on June 25th, at noon, and on the following days at 9 A.M., for the issue of all tickets in connexion with the Conference. The inaugural address of the President will be given in the Examination Hall, Trinity College, and the sectional meetings and conferences will be held in Trinity College. To those not connected with the Institute the price of the Conference tickets is 10*s.* 6*d.* each. These tickets may be obtained at the offices of the Institute, 72, Margaret-street, London, W., or at the local offices, 63, Dawson-street, Dublin.

Health of Belfast.

At a meeting of the public health committee of Belfast held on June 15th it was reported that for the week ended June 8th there had been 13 cases of cerebro-spinal meningitis, as against 22 in the previous week. Of the 118 patients at present in Purdysburn Hospital 36 are suffering from cerebro-spinal meningitis and eight deaths occurred during the week from that disease. It is satisfactory to know that cerebro-spinal meningitis is at last showing signs of abating in Belfast. The general feeling in medical circles is that the epidemic has gradually worn itself out, but it is doubtful whether the elaborate disinfection or the isolation of the patients has been a factor in the problem; it is just as probable that the warm weather may have something to do with the gradual dying of the meningococcus or of its becoming less virulent, but so far there is no experimental evidence from the laboratory confirming this. It is curious that in Belfast for the week ended June 8th, while there is a diminution in the cases of cerebro-spinal meningitis notified (13 as compared with 22 in the previous week), on the other hand, typhoid fever has increased from three to 11 cases.

Tuberculosis in Belfast.

The medical superintendent officer of health has in a report to the public health committee recommended it to take into consideration the advisability of inviting all the medical practitioners in Belfast to coöperate in the voluntary notification of tuberculosis and that they should be paid the ordinary fee which is paid for other infectious diseases. He has also recommended the appointment of two health visitors. At a special meeting of the city corporation held on June 17th a report from the public health committee was submitted that in consideration of the authorities of the Forster Green Hospital for Consumption reserving 25 beds for patients, nominated by the committee and approved as suitable by the medical superintendent of the hospital, the corporation should be recommended to pay the sum of 35*s.* per bed per week, the corporation to be represented on the board of governors by the Lord Mayor for the time being and the chairman of the public health committee for the time being, or, in case of their inability to act, by any two members of that committee nominated by the committee. The governors of the hospital undertaking that in the event of there being any vacant beds in the hospital over and above the number referred to, patients nominated by the public health committee will be admitted on payment of 20*s.* each per week, the agreement to hold good for a period of ten years. In other words, the city council will contribute to the consumption hospital £2270 a year for the ten years for the privilege of having 25 beds at its disposal. The 25 beds are to be additional to the present accommodation at the hospital. The hospital authorities will create further accommodation for the patients to the extent of their undertaking with the corporation. The plans for the extensions are ready and the work will be proceeded with whenever the agreement is completed. A motion to approve of the above arrangement having been proposed and seconded, an amendment was submitted to refer it to the public health committee and that the latter be instructed to take into consideration the immediate establishment of a municipal consumption hospital at a maximum cost of £12,500 for lands, building, and equipment. The amendment on being put to the vote was lost by 26 to 5. A subsequent amendment that no arrangement such as was given in the suggested plan should be entered into for a longer period than 12 months was defeated by 20 to 6 votes. The original motion was then put to the meeting and was carried.

Epidemic of Typhus Fever in Newry.

It has been decided to open the Canal-street Baths in Newry as an isolation hospital for typhus fever, and already five cases have been located in them—all children. On June 17th two fresh cases from a part of the town where nearly all the cases occurred were admitted to the workhouse fever hospital.

June 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The French Income-tax and the Medical Profession.

THE Bill to impose an income-tax has excited the opposition of all the medical men of France. The point at issue is the stipulation made in one of the articles of the project. This states that the tax shall be estimated according to the net profits realised during the preceding year. As, however, no allowance is made for the expenses incurred in the exercise of the medical profession, though such allowance is made in regard to trade and industry, it follows that all fees will be considered as net income. The cost of instruments, of books, and of surgical dressings will not be deducted from the general income or profits. The tax will be levied on all; even the small fee granted by the authorities to the medical attendants of the poor for rendering gratuitous medical assistance to the indigent or to children assisted by the State or the commune, and the allowance made to hospital staffs, or the reduced payments received from benefit and friendly societies, &c. For going some distance in the country the sum paid will be taxed without any deduction being made for the cost of a conveyance. The payment for a licence to practise will not be suppressed. The tax collector will have the right to verify the accounts and to ask questions as to the persons who paid the fees; professional secrecy will be violated. The tax collector will always be able to assert that it was only to deceive him that the country practitioner professed to receive less for performing the same operation than the high fee paid to a celebrated surgeon who came expressly from a large town. The practitioner will no longer be at liberty to accept smaller fees from needy persons. Finally, it may happen that some of the fees are not paid but the tax-collector may refuse to believe it. The members of the profession are naturally alarmed by all these threats and from all sides protest loudly. The most important of these protests has been made at the Union of the Medical Practitioners of the Department of the Seine by Dr. Renon who read to this union a report which contained much evidence and information and which also recapitulated the complaints that had already been made. He insisted especially on the protestation adopted by the recent congress of practitioners which was composed of 1400 medical men and more than 100 medical societies, and some of these latter have more than 1000 members. This congress adopted a motion urging all its members to vote against the project. Dr. Renon, therefore, terminated his report by proposing that the administrative council of the Union of the Medical Practitioners of the Department of the Seine should adopt the following motion:—

> That widespread efforts should be made to enlighten public opinion on the dangers to which patients are exposed by the present project. That during the discussion of this project the members of the Parliamentary medical group should struggle energetically against the Bill, endeavour to obtain the maintenance of the actual state of affairs, but with some ameliorations in regard to the licence to practise; and, in the event of the Bill being carried must insist that the cost of the working expenses shall be deducted from the receipts made by medical practitioners, and the remaining net income only rendered susceptible to income-tax.

Juvenile Tabes with Ocular Complications.

At a meeting of the Ophthalmological Society held on June 4th M. Cantonnet showed a boy, aged 15 years, who was suffering from scoliosis and hereditary syphilis. When 13 years of age he began to have incontinence of urine. Eight months ago he developed oculo-motor paralysis of the left eye, which condition was much benefited by mercurial treatment. Lightning pains appeared five months ago. He now has diplopia, ataxia of the ocular muscles, inequality of the pupils with the Argyll-Robertson sign, and diminished sensation in the left side of the face. The patellar and tendo Achillis reflexes are absent. He shows neither Romberg's sign nor any locomotor ataxy.

Sulphur Waters and Mercurial Treatment.

M. Desmoullières and M. Chatin communicated to the Academy of Medicine at a meeting held on June 3rd the result of some investigations undertaken by them to determine the reason why at sulphur water health stations syphilitic patients could take mercury in doses which were four or five times larger than they could take in usual circumstances. Their investigations showed that sulphur waters act, not by the formation of an insoluble sulphate of mercury, but by augmenting the solvent power of the blood serum for albuminates of mercury. Sulphur waters, therefore, make it possible to give large doses of mercury without danger of mercurial poisoning. Moreover, if there be any accumulation of mercury in the tissues the use of sulphur waters throws it into the circulation, and they are thus of great service in cases of chronic mercurial poisoning.

The Rearing of Premature Children at the Charity Maternity Hospital.

The conditions to fulfil for the successful rearing of premature children—i.e., children born before term, between the sixth and ninth months, whose weight varies from 1500 grammes and less up to 2500 grammes—comprise three essential indications. First, to guard the infants against chill by means of incubation, massage, and hot baths. Secondly, to give them appropriate diet which should before all things consist of breast milk. Thirdly, to protect them from the results of infection to which their low powers of resistance expose them and at the same time to pay careful attention to their hygiene and to isolate them from every source of infection. Moreover, an important point is that when these children are born in a maternity charity they should be kept there during the whole time necessary for their complete development. It was by the application of these principles, and by following the rules so accurately laid down by Budin, that all the premature children born at the Charity Maternity Hospital between 1898 and 1907 were cared for. The results are as follows. Out of 735 children 616 left the hospital alive and well which gives a percentage of 83·80 survivals. The *consultations des nourrissons* at the hospital allowed 146 of these cases to be followed up over a range of time varying from one month to two years and advice and help to be given to the mothers in the task of bringing up the children. Of these 146 feeble children five died, a mortality of 3·42 per cent., so that the total survivals were 96·58 per cent. This proves that premature children can be brought up and can develop physically and intellectually in as great a proportion as full-term children. This result, which Budin's researches had already shown would occur, proves that, far from considering such children as a negligible quantity, we should strive to promote their development in every possible way. It is also desirable that in accordance with the opinion of M. Paul Strauss feeble children should be considered as "sick," and, like them, given the benefit of the law with regard to gratuitous relief, so that the indigent mother of a premature child can be helped and enabled to devote herself entirely to the difficult task of rearing the infant.

June 18th.

THE INTERNATIONAL COMMISSION ON SLEEPING SICKNESS.

AT the invitation of the Colonial Office an international conference was opened at the Foreign Office on June 17th, where representatives of the various African colonies and protectorates met to discuss the question of taking concerted action in dealing with sleeping sickness. The delegates taking part in the conference are:—

Great Britain.—Lord Fitzmaurice, Sir W. Foster, Mr. A. W. Clarke (Foreign Office), Mr. H. J. Read (Colonial Office), and Sir Patrick Manson.

Congo Free State.—Colonel Lantonnais (Vice-Governor-General), Commandant Tonneau, M. Rutten, and Dr. van Campenhout.

France.—Dr. Kermorgant, Dr. Paul Gouzion, Professor Blanchard, and Dr. Laveran.

Germany.—Herr von Jacobs (Imperial Colonial Office), Dr. Ehrlich, and Dr. Fulleborn.

Portugal.—Dr. Correa Pinto.

Sudan.—Colonel Hunter and Dr. Andrew Balfour (Gordon College, Khartum).

Lord FITZMAURICE is the president and delivered an address of welcome.

Obituary.

BENJAMIN LANE, L.R.C.P. LOND., L.R.C.S. IREL.,

BRIGADE SURGEON, ARMY (RETIRED).

Brigade-Surgeon Benjamin Lane, who for some years has lived in retirement at Cheltenham, died on June 12th at his residence in that town. He was the eldest son of Dr. W. Lane of Limavady, county Derry, and was born on June 4th, 1827. He entered the army in 1852 as assistant-surgeon and retired in 1882. He received for his services in the Burmese war of 1852–53 with the 80th Regiment the medal with clasp. He was present at the attack at Tomboo and gained distinction in the various operations in its vicinity. On one occasion, when the whole detachment at Tomboo was prostrate with fever, he devoted himself so whole-heartedly to the care of the sick that his assiduous attention to those under his care was singled out for particular commendation in General Orders by the commander-in-chief. In the storm and stress of the Indian Mutiny his sterling worth and inherent capacity to deal with the most untoward emergencies gained for him the well-earned reputation of an able and energetic officer. On March 5th, 1858, his zeal and experience were utilised at the action on the banks of the Jumna, for which he received the medal. For 14 years his duties kept him in close touch with the 4th King's Own Royal Regiment at home and abroad. He leaves three daughters and one son who is well known in the medical profession, Mr. W. Arbuthnot Lane.

Brigade-Surgeon Lane was buried in Cheltenham cemetery on June 15th and the ceremony was attended by the immediate relatives and by a great gathering of his old military and other friends, amongst these being General Winson, General Prendergast, Colonel Croker King, Commander Dillon, R.N., Lieutenant-Colonel Harvest, Colonel Farwell, Colonel Abbott, Colonel Burlton-Bennett, and Colonel Mortimer.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The ordinary Council of the above College on the 13th inst. conferred Diplomas of Fellow upon 26 candidates who passed in the subjects of Surgery, Surgical Anatomy, and Pathology at the recent examination, for which 63 candidates presented themselves. The following are the names and qualifications of the new Fellows of the College:—

Reginald George Turner, L.R.C.P., M.R.C.S., St. George's and London Hospitals; Stanley Edward Denyer, C.M.G., M.D., M.A., B.C. Cantab., L.R.C.P., M.R.C.S., D.P.H., Cambridge University and Guy's Hospital; Richard Horace Paramore, M.D. Lond., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; James Vere Arkle, L.R.C.P., M.R.C.S., New Zealand University and St. Thomas's Hospital; Frank Arthur Hepworth, M.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's Hospital; William Lawrence Cripps, B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's Hospital; Francis Willoughby Goyder, M.B., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Mary's Hospital; Frank Alexander Gallon Jeans, M.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's Hospital; William Girling Ball, L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; Herbert Wilberforce Perkins, L.R.C.P., M.R.C.S., L.D.S., Middlesex Hospital; Albert James Walton, B.Sc. Lond., L.R.C.P., M.R.C.S., London Hospital; Ivor Gordon Back, M.B., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. George's Hospital; John Clarke Mead, L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; William Isaac Cumberlidge, B.A. Cantab., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; Ebenezer Ross Faulkner, B.A., M.D., C.M. Dalhousie, L.R.C.P., M.R.C.S., St. Thomas's Hospital; Paul Leon Giuseppi, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; Melville Birks, M.B., B.S. Adelaide, L.R.C.P., M.R.C.S., Adelaide University and London Hospital; Robert Dow Forbes, M.D., McGill University L.R.C.P., M.R.C.S., McGill University and St. Thomas's Hospital; Francis Edmund McKenty, M.D., C.M. McGill University, L.R.C.P., M.R.C.S., McGill University; David Thomas Barry, M.D. Royal University of Ireland, D.P.H., Liverpool University and London Hospital; Raymond Broadley Etherington-Smith, M.A., M.B., B.C. Cantab., Cambridge University and St. Bartholomew's Hospital; Arthur Charles Goodwin, M.B., M.Ch. Oxon., Oxford University and London Hospital; Richard Eugene Harcourt, M.D., M.Ch. Royal University of Ireland, Belfast and Liverpool University; John Swift Joly, M.B., B.Ch., B.A.O., M.D. Dublin, Dublin Unversity and London Hospital; Francis Scoble Mackenzie, M.B., Ch.B., Ch.M. Edinburgh, Edinburgh University, King's College, and London Hospitals; and Henry Herbert Rayner, M.B., Ch.B. Victoria, London Hospital and Manchester University.

Licences to practise Dental Surgery were also conferred by the Council on the undermentioned gentlemen who have completed the necessary examinations:—

Leonard Charles Attkins, Middlesex and National Dental Hospitals; Alfred Newman Balkwill, Charing Cross and Royal Dental Hospitals; Edgar Playle Barnett, Guy's Hospital; William Gordon Batt, Middlesex and National Dental Hospitals; Edwin Leonard Brown, Guy's Hospital; Reginald William Clayton Cooper, Arthur Basil Cross, and William Allison Cuttriss, Charing Cross and Royal Dental Hospitals; Harold John Dear, Guy's Hospital; Frederic Leonard Denty, Charing Cross and Royal Dental Hospitals; Rupert Woodward Elvy, D.D.S. Penn., St. Mary's Hospital; Alverstone Harold Gabell and Reginald Algernon Glindon, Guy's Hospital; William Henry Ireland and Cecil Augustus Joll, B.Sc. Lond., University College, Bristol; Jamshedji Jivanji Modi, L.M. & S. Bombay, Bombay University and Royal Dental Hospital; Lionel Alexander Burke Moore, Guy's Hospital; William Charles Augustus Ovey, Charing Cross and Royal Dental Hospitals; Ralph Redpath, Guy's Hospital; John Alfred Rose, Middlesex and National Dental Hospitals; Bertram Barnett Samuel, Guy's Hospital; Wilfrid Tom Sansom, Birmingham University; Thomas Lionel Smith, Guy's Hospital; Percy Sidney Charles Sutcliffe, Westminster and Royal Dental Hospitals; Hedley Clarence Visick, Guy's Hospital; and William Hubert Willsher, Middlesex and Royal Dental Hospitals.

UNIVERSITY OF CAMBRIDGE.—The late Professor Newton has bequeathed to the University his zoological collections, copyrights, and books, together with £1000 for the upkeep of the zoological library.—The general board proposes that two new lectureships, one in the physiology of the senses and the other in experimental psychology, shall be established in place of the lectureship in psychophysics now held by Dr. W. H. R. Rivers, of St. John's.—The honorary degree of Doctor of Science is to be conferred on a number of distinguished foreign geologists in connexion with the approaching centenary of the Geological Society.—The Raymond Horton-Smith prize for the best M.D. thesis of the year has been awarded to Dr. J. Mellanby, M.A., Emmanuel College. The subject was "The Properties of Diphtheria Antitoxin and its Relation to the Proteids of Normal Serum."—At Congregations on June 13th and 15th the following degrees were conferred:—

M.D.—T. G. M. Hine, King's; G. T. Western, Pembroke; J. Mellanby, Emmanuel; and E. B. Leech, Christ's.

M.B. and B.C.—F. Gayner, King's; H. P. Crampton and H. W. Wiltshire, Clare; and C. Cassidy, H. P. Gibb, and H. Dimock, Sidney Sussex.

M.B.—C. E. Droop, Trinity; H. C. Cameron, St. John's; J. W. Linnell, St. John's; A. R. Jordan, Clare; and E. Lloyd.

B C.—L. H. L. Mackenzie, Trinity.

D.Sc.—A. Scott.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Bockenheimer, Assistant in the Ziegelstrasse Surgical Clinic, Dr. Adolf Lazarus, *privat-docent* of Medicine, and Dr. Boas, *Sanitätsrat*, have been granted the title of Professor.—*Bonn:* Dr. Garré of Breslau, where he has only been for a single year, having succeeded the late Professor von Mikulicz-Radecki, has been appointed Professor of Surgery in succession to Dr. von Bergmann who goes to Berlin.—*Constantinople:* Dr. Wieting has been appointed Director of the Medical School in place of Dr. Deycke who has returned to Hamburg.—*Copenhagen:* Dr. Chr. Heyerdahl has been recognised as *privat-docent* of Neurology.—*Göttingen:* Dr. Knapp has been recognised as *privat-docent* of Psychiatry and Neurology.—*Greifswald:* Dr. Eduard Allard has been recognised as *privat-docent* of Medicine. Dr. August Martin, Professor of Gynæcology, is retiring at the close of the summer semester; Dr. M. Kochmann has been recognised as *privat-docent* of Pharmacology and Dr. Mangold of Jena as *privat-docent* of Physiology.—*Kazan:* Dr. Zimnitski of St. Petersburg has been appointed Extraordinary Professor of Medicine.—*Naples:* Dr. Alfonso Montefusco has been recognised as *privat-docent* of Infectious Diseases.—*Odessa:* Dr. Mikhael Diterikhs has been recognised as *privat-docent* of Orthopædic Surgery.—*Strasburg:* Dr. Georg Weill, *privat-docent* of Ophthalmology, has been granted the title of Professor.—*Vienna:* Dr. Schüller has been recognised as *privat-docent* of Mental and Nervous Diseases and Dr. Ludwig Wick as *privat-docent* of Balneology and Hæmatology.

THE COMPULSORY NOTIFICATION OF PULMONARY TUBERCULOSIS.—The question as to the desirability of the compulsory notification of pulmonary tuberculosis was answered in the affirmative at a conference of representatives from 28 of the 29 metropolitan borough councils held on June 6th in the Town Hall, Paddington, the Mayor of Paddington being in the chair. Mr. W. J. Nolan (Paddington), in moving that it is desirable that the notification of pulmonary tuberculosis should be compulsory, said that tuberculosis was infective and curable. He contended that compulsory notification was essential for providing the groundwork of future legislation and could be "gently worked" without interfering with the liberty of the subject. The conference before voting in favour of this motion rejected by 36 to 12 an amendment stating that it is desirable that voluntary notification of pulmonary tuberculosis should be general throughout Great Britain and Ireland. This amendment was moved by Dr. F. H. Alderson (Kensington) who declared that it was impossible to consider tuberculosis from the same standpoint as small-pox. The effect of compulsory legislation would be to make the unfortunate consumptive patient a "social leper" and sufficient sanatoriums could not be provided "without ruination to the ratepayers." Dr. A. J. Rice Oxley (Kensington) observed that the general public would not tolerate such a vexatious measure as compulsory notification which would be more difficult to enforce than vaccination. On the proposal of Dr. T. Orme Dudfield the conference agreed to the following :—

> That a sanatorium is needed for the open-air treatment of poor persons suffering from pulmonary consumption in the early stages of the disease, and should be provided by a central authority acting for the metropolis as a whole. That the managers of the Metropolitan Asylums Board, by reason of their practical experience in the management of hospitals for infectious disease, being eminently qualified for the position of such authority, the Local Government Board be requested to confer on, or if necessary to obtain for, the said managers power to act in that capacity. That the managers of the Metropolitan Asylums Board should also be empowered to use for *sanatorium* purposes the "Southern Hospital," recently erected by them at Carshalton, in the County of Surrey.

The following motions were also carried and a deputation was appointed to wait upon the President of the Local Government Board :—

> That application be made to the Local Government Board for an order to be made to include pulmonary tuberculosis among the diseases to be notified under Section 55 of the Public Health (London) Act, 1891, and to extend the provisions of Sections 60 to 65 of the above Act to pulmonary tuberculosis.
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> That, in the opinion of this conference, it is desirable, in order to limit the spread of pulmonary tuberculosis, provision should be made for public inspection and control at its several sources, of the milk-supply of England, and that the Local Government Board be asked to make the Dairies, Cowsheds, and Milk Shops Order, 1885, and their amendments compulsory on local authorities.
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> That application be made to the Local Government Board for an order to be made to extend the provisions of Section 69 of the Public Health (London) Act to pulmonary tuberculosis, in so far as it relates to the milking of cows and to the sale and distribution of milk.

DEATH OF A CENTENARIAN.—Mrs. Patience Harris died at King's Stanley, Gloucestershire, on June 3rd, aged 101 years.

UNIVERSITY OF OXFORD.—In a Convocation held on June 18th the honorary degree of D.Sc. was conferred upon Geheimrath Professor Dr. Paul Ehrlich, director of the Royal Institute for Experimental Therapeutics, Frankfurt on the Main. Dr. Ehrlich was presented by Professor A. E. H. Love, D.Sc., Sedleian Professor of Natural Philosophy.

MEDICAL MAGISTRATES.—Mr. Richard Harding, L.R.C.P. Edin., L.F.P.S. Glasg., of New Radnor, has been placed on the commission of the peace for the county of Radnor.—Mr. John Lloyd Davies, L.R.C.P. Lond., M.R.C.S. Eng., of Newport, and Mr. Evan Thomas, M.D. Lond., L.R.C.P. Lond., M.R.C.S Eng., of Newbridge have been placed on the commission of the peace for the county of Monmouth.

As we have already announced, a meeting to inaugurate an educational health and food campaign will be held at the Mansion House on June 26th, at 4 P.M., under the chairmanship of the Lord Mayor, and under the auspices of the Bread and Food Reform League and other societies. It is desired to institute a vigorous propaganda against the national ignorance about the value of articles of diet, the careless consumption of adulterated food, and the neglect of elementary laws of hygiene.

A SCIENTIFIC EXHIBITION.—An exhibition of engineering models, optical, electrical, and scientific instruments, technical education appliances, and tools is to be held at the Royal Horticultural Hall, Vincent-square, Westminster, London, S.W., from Oct.. 22nd to 26th inclusive. In addition to exhibits by the leading makers of the above-named goods there will be an important loan collection of interesting experimental and exhibition models and apparatus and also lectures and demonstrations in various branches of applied science. The exhibition is being organised by Messrs. Percival Marshall and Co., 26–29, Poppin's-court, Fleet-street, London, E.C., who will be pleased to give further particulars on application.

DONATIONS AND BEQUESTS.—By the will of Mrs. Helen Grundy the Bury Dispensary Hospital will benefit by the sum of £3000 and the Robinson Kay Hospital for Incurables by £1500.—Miss Mary Ann Mellor Davidson has by will left £1000 to St. Mary's Hospital, Quay-street, Manchester; £1000 to the Manchester Royal Infirmary and Dispensary; £1000 to the Stockport Infirmary; £500 to the Manchester Royal Eye Infirmary; £500 to the Manchester and Salford Blind Aid Society; £500 to the Manchester and Salford Hospital for Skin Diseases; £500 to the Manchester and Northern Hospital for Women and Children; £500 to the Manchester Hospital for Consumption and Diseases of the Throat and Chest; £500 to St. Mary's Home, Manchester; and £500 to the General Hospital and Dispensary for Sick Children, Pendlebury.—By the will of Mrs. Byrne the sum of £600 is bequeathed to the Royal Sick Children's Hospital, Aberdeen, to found a cot to be called the "Elsie Mary Byrne cot," while to Morningfield Hospital, Aberdeen, the same lady has left the sum of £200.

PROLONGATION OF LIFE IN ICELAND.—Mr. J. Vidalin, British consul at Reykjavik, in his annual report to the Foreign Office, mentions that the population of Iceland in 1905 was 80,500, and adds: "A very interesting fact is the prolongation of human life. The medium age in the country in the period 1830–49 was 33 years; in 1851–60 it was 35·4 years; in 1891–1900 it was 55·9; and in 1901 it was 61·8. The chief reasons for this prolongation of life are the increase in the number of physicians and the strong measures against the introduction of infectious diseases into the country."

INSTITUTE OF HYGIENE.—A meeting of this institution was held at 34, Devonshire-street, Harley-street, W., on June 18th, when Sir Dyce Duckworth delivered a lecture on Nursing and the Needs of the Invalid. In the course of his remarks he said that we had only to cross the Channel to find how sadly inferior and belated are the nursing arrangements in most of the continental countries where, with occasional exceptions, the needs of the patient are very imperfectly met and both the *matériel* and *personnel* are clumsy, often insanitary and inadequate, though the administration may be in devoted, if untrained, hands. He said that we required more nurses fully trained in large hospitals. The primary duty of the nurse was the general welfare of the patient in every detail but she should be properly housed, comfortably fed and provided for, and not be treated as a menial. He then proceeded to give at length the various duties of a nurse.

THE LONG GROVE ASYLUM.—The new Long Grove Asylum at Epsom, erected by the London County Council, has been recently completed and the first batch of patients were received this week. The asylum is the tenth for the County of London and was designed by Mr. George T. Hine. The buildings will accommodate 2020 patients, of whom 650 will be lodged in villas. The wards are divided into the following classes: sick and infirm, acute, refractory epileptics, and chronic quiet and working patients. Two villas, taking 50 patients each, are hospitals designed for the reception of new cases and their treatment if curable, whilst two, each taking 25 patients, form probationary convalescent homes for cases so treated. The main block wards are in continuous buildings on the pavilion principle and are all intercommunicating as well as being connected with main corridors. The administrative buildings and offices are suitable, whilst full provision has been made for the accommodation and recreation of the staff. The recreation hall for patients is 120 feet by 60 feet. The asylum includes a farm with buildings, a detached chapel, a residence for the medical superintendent, an isolation hospital, and complete workshops and laundry buildings. The electricity for lighting and power purposes is generated at the central station of the Horton estate. The water tower is 130 feet high and contains tanks holding 80 000 gallons. The entire cost, excepting land and equipment, is estimated at £490,000 —i.e., £243 per bed.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Wounded and Sick in War.

THE terms of the International Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field, which was signed at Geneva on July 6th, 1906, are set forth in an official paper presented to both Houses of Parliament. The British ratification of the Convention was deposited at Berne on April 16th, 1907. The Convention has already been ratified by Siam, the United States o America, Russia, Italy, Switzerland, the Congo Free State, and Germany. The formal adhesion to the Convention has still to be given by many other States which took part in the conference at Geneva last year.

Breathing Appliances in Mining Disasters.

The first report of the Royal Commission which was appointed to inquire into certain questions relating to the health and safety of miners is entirely devoted to the subject of breathing appliances for use in mines at times of explosions and emergency. This matter was brought strikingly before public attention at the time of the Courrières disaster, when a rescue corps from Westphalia proceeded to the French mine with appliances for succour and relief. The Commission has utilised the experience gained in the use of various types of breathing apparatus in mines on the continent. In connexion with the investigations of the Commission the director of the Lister Institute kindly allowed experiments to be conducted at the institute. Dr. A. E. BOYCOTT, who, as the report states, was specially qualified for making an examination of the various breathing appliances by a practical knowledge of the physiology of respiration and considerable experience of underground conditions, conducted a series of experiments in great detail and his elaborate description of his work is printed as an appendix to the Blue-book. The Commissioners, after considering the evidence put before them, come to the conclusion that the question of the provision of breathing appliances demands the serious attention of the mining industry. However, they are of opinion that sufficient advance has not been made to justify making the provision of the appliances compulsory. A good deal of experience is required as to their working and as to the best system of training men before the value of their use can be properly appreciated. At the same time they express confidence that the necessary steps towards a systematic use of the appliances will be taken by the mine-owners of the United Kingdom without delay.

The College of Science.

Dr. DONALD MACALISTER, President of the General Medical Council, who recently became Principal of the University of Glasgow, has been appointed by the Crown to the governing body of the new College of Science at South Kensington. His name was included in the list announced by the Prime Minister in the House of Commons on Monday.

Purity of Milk supplies (Scotland) Bill.

The text of the Purity of Milk-supplies (Scotland) Bill, introduced into the House of Commons recently by Mr. WATT, has been printed. The measure is supported by Sir ANDREW TORRANCE, Mr. PRICE, Mr. MCCALLUM, and Mr. HALLEY STEWART. The object of the Bill is to insure the purity of milk-supplies in rural and urban districts of Scotland. One of the clauses lays down that no person shall sell for human food the milk of any cow suffering from chronic wasting disease or any disease of the udder or ulceration of the teats. There are further provisions in the Bill for the notification of disease in cows and for the prevention of infection or contamination of the milk.

The Investigation of Cancer.

Last week Captain FABER put a question on the notice paper of the House of Commons in which he asked the Prime Minister whether he could see "his way to appoint a Royal Commission to inquire into the prevailing scourge of cancer." The Prime Minister, through his private secretary, intimated to Captain FABER that he would take some days to consider his answer, and up to Wednesday night the honourable Member had received no further communication on the subject. The delay of the Prime Minister in sending a reply to the question has raised hopes amongst many members that the Government will assent to some such investigation as Captain FABER suggests, but no formal and official announcement has been made.

HOUSE OF COMMONS.

THURSDAY, JUNE 13TH.

Women Medical Referees.

Mr. HENRY J. WILSON asked the Secretary of State for the Home Department whether he had taken, or would take, into consideration the propriety of appointing some women medical referees under the Workmen's Compensation Act which will come into force on July 1st, especially in cases or districts where women were largely employed.—Mr. GLADSTONE answered: I am not aware that any necessity for such appointments has been found to exist under the Act of 1897, which applied to a large number of women employed in factories, but I shall be glad to take the matter into consideration.

Hygiene in Schools.

Mr. HARMOOD-BANNER asked the President of the Board of Education whether his attention had been called to the demand for the compulsory introduction of the teaching of hygiene and temperance into the curriculum of the elementary schools; and whether he intended by legislation or administrative action to carry through a scheme in reference thereto with as little delay as possible.—Mr MCKENNA replied: I have received numerous representations urging the necessity of extending the teaching of hygiene in elementary schools. The code at present lays down that physical training should be included in the curriculum for scholars other than infants and should be accompanied by instruction in the elementary rules of personal health in respect of food, drink, cleanliness, and fresh air, and the volume of "Suggestions for the Consideration of Teachers," which was issued by the Board a few years ago, included an outline scheme for the teaching of hygiene and temperance I am considering how numerous difficulties connected with the teaching of this subject can be surmounted and I hope to derive considerable assistance in this from the International Congress upon School Hygiene which will meet in London in August.

FRIDAY, JUNE 14TH.

The Medical Inspection of School Children.

During the afternoon the House considered the Education Acts Amendment Bill as amended in Standing Committee. This is the measure which was introduced by Mr. W. Rea to make provision for the medical inspection and treatment of school children.

Sir F. BANBURY moved as an amendment to omit Clause 1, which contained a provision for the medical inspection of children "before or at the time of their admission" to a public elementary school. He thought the clause went too far, as under it the local education authority appeared to be empowered to give a medical man a roving commission to examine children who, he might think, required medical examination or attendance.

Captain CRAIG seconded the amendment. He contended that the clause merely amounted to securing medical attendance for children from the day they were born.

Mr. W. REA pointed out that the Bill was composed of two uncontentious clauses from the Education Bill of last year. He could assure honourable Members that the fears expressed with regard to the extent of the operation of the clause under discussion were groundless. The words providing for the medical inspection of children, "before or at the time of their admission to a public elementary school," must be read in conjunction. He was informed that the introduction of the word "before" in this connexion could not be construed into meaning that State medical inspection of children was permitted from the time they were born.

After some discussion the amendment was by leave withdrawn.

Sir P. MAGNUS moved an amendment to alter the phraseology of the clause so that it should be provided that the medical inspection should take place "at any time within 12 months after" the child's admission to school.

Captain CRAIG seconded the amendment.

Sir WILLIAM COLLINS considered that the best time for the medical inspection to take place was shortly after the admission because teachers, when they had become familiar with the children, were able to indicate to the medical officer defects from which they thought the children were suffering.

Mr. LOUGH (Parliamentary Secretary to the Board of Education) suggested that some such words as "immediately before, about the time of, or as soon as possible after" the admission of the child would meet the case

The amendment was withdrawn and the words suggested by Mr. Lough were inserted in the Bill.

Mr. ASHLEY moved as another amendment that a provision should be inserted in the Bill laying down that expenses incurred under the Act for attending to the health and physical condition of a child should be recoverable from the parent in a court of summary jurisdiction

Sir F BANBURY seconded the amendment. However, after some discussion it was defeated by 229 votes to 39. This completed the report stage of the Bill.

MONDAY, JUNE 17TH.

The Food Regulation Bill.

Mr. ALDEN asked the President of the Local Government Board, in view of the non-introduction of the Food Regulation Bill, whether he could state the degree in which his Bill had the support of the leading sanitary authorities and medical officers of the country and the extent to which it was opposed by such authorities.—Mr BURNS replied: My honourable friend is under a misapprehension. The Bill to which he refers was introduced this session. It was brought in some time since and is awaiting second reading. I have received several communications from the sanitary authorities in favour of the Bill and none against it.

The Teaching of Hygiene in Scottish Schools.

Mr. WEIR asked the Secretary for Scotland whether the Scottish Education Department would be represented at the International Congress upon School Hygiene which will meet in London in August; and whether he would consider the expediency of arranging for the compulsory teaching of hygiene and temperance in the elementary public schools in Scotland.—Mr. SINCLAIR answered: The department proposes to be represented at the Congress. It is not prepared at present to make the teaching of the subjects mentioned compulsory, but will carefully consider the reports of any discussions on the subject at the Congress.

Factory Inspection in Belfast.

Mr. CHARLES DUNCAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether, seeing that the medical officer of health of the city of Belfast recently refused to take action in a case of factory inspection, and that a special sanitary inspector was sent to Belfast by the Government, any report had yet been issued by his department on this case; and, if not, whether any promise could be given as to the date of its publication.—Mr. BIRRELL sent the following written reply to the honourable Member: The inspection of factories is a matter which concerns the Home Secretary to whom any inquiry on the subject should be addressed As regards the latter part of the question it is assumed that the honourable Member intends to refer to the Commission of Inquiry which is at present investigating the general sanitary administration of Belfast. The Commission has not yet finished taking evidence and it cannot be said when its report will be ready.

TUESDAY, JUNE 18TH.

The Lunacy Commission.

Sir JOHN TUKE asked the Secretary of State for the Home Department whether, pending the production of the report of the Royal Commission on the Care and Control of the Feeble-minded, and pending legislation founded on the said report, he would take any steps to supplement the Lunacy Commission so as to relieve the existing congestion in the department and to procure adequate inspection of asylums.—Mr. GLADSTONE said in reply: The number of the Commissioners in Lunacy is fixed by statute and while I am fully alive to the fact that the great increase in the duties which they have to carry out has caused a considerable congestion of business, to meet which an addition to their staff may be required, I could not initiate legislation pending the presentation of the report of the Royal Commission.

MEDICAL AND DENTAL COMPANIES.

The Select Committee of the House of Lords, which was appointed to take evidence in connexion with the Prohibition of Medical Practice by Companies Bill and the Dental Companies (Restriction of Practice) Bill, held its concluding public sitting on Thursday, June 13th. Lord HYLTON was again in the chair and all the other members of the committee were present.

Mr. MUIR MACKENZIE, who was lately legal assessor to the General edical Council, was the first witness examined. He stated that he ad been concerned in the drafting of both Bills. He pointed out that evidence against the Prohibition of Medical Practice by Companies ill had been offered to the committee. So far as his experience went ere would be many companies affected by the Bill.

Lord Knutsford: With regard to the Dental Bill, has your atten-on been drawn to the fact that a certain number of dental companies, lthough composed of unqualified persons, appear to be *bonâ fide* nd appear also to do a great deal of good in districts where there are o registered practitioners at present? The evidence is very strong at there are such companies legitimately formed and carried on, no oubt, by unqualified persons who nevertheless have had some training.

Mr. Muir Mackenzie: I have never come across a company of this rt carried on to the advantage of the public, and the mischief of nqualified men, however much their experience is assumed to be, is, am convinced, a very grave one. I have seen this, not only as a lawyer the course of a very large practice at the Bar, but also when I was nnected with the General Medical Council.

Lord Knutsford: From your experience would you consider that here should not have been in the Acts of 1878 and 1858 exemptions for ersons who were in *bonâ-fide* practice? In 1858 persons who had not een on the Register were allowed to go on it, and in 1878 the same hing happened.

Mr. Muir Mackenzie: That was the case, but it was not to the dvantage of the public, if your lordship will permit me to say so. He ent on to say that ignorant and incompetent men had in this way een placed on the Register.

Lord Knutsford: You think on general principles that it is not esirable that there should be companies of this sort?

Mr. Muir Mackenzie: I think that is a great disadvantage to the ublic.

Lord Knutsford: You would not therefore agree with the Dental Bill?

Mr. Muir Mackenzie: As a member of the public I would prefer he Bill to no Bill at all, but I would prefer the extension of the principle of the Medical Bill.

Lord Knutsford: You would not make any exemptions in the case of the dental companies.

Mr. Muir Mackenzie: I do not think it is possible to draft pro-isions for those exemptions. He could not agree that any company f unqualified surgeons, physicians, or dentists was carrying on a *bonâ-fide* practice. If the committee asked him his opinion he would say that the introduction of exemptions into the Bill would lead to the possibility of abuse.

The Chairman: I rather gather that you hold that the establish-ment and the working of these dental companies are contrary to the intentions of the Act of 1878. That is your principal contention.

Mr. Muir Mackenzie: Certainly.

The Chairman: Under the Act of 1878 the legislature intended to direct that only qualified dental practitioners should be allowed to practise, and what has been going on since has been contrary to the intentions of the legislature?

Mr. Muir Mackenzie: No doubt that was the intention. However, in the Act of 1858 and in the Act of 1878 the legislature stopped short of making it a misdemeanour for unqualified men to practise. However, they imposed disabilities.

Lord Knutsford: The unqualified man cannot recover fees, for instance.

Mr. Muir Mackenzie: No.

The Chairman: Some evidence has been given to us tending to suggest that if we passed the Prohibition of Medical Practice by Companies Bill in its present form our object might be defeated by any of the present joint-stock companies being dissolved and private companies being formed which would in future do exactly what joint-stock companies do at present.

Mr. Muir Mackenzie: The answer is there is no such thing as a private company. The joint-stock company is an incorporated body. A company apart from that kind of company is merely the persons who compose it.

The Chairman: You see no danger in the phrase "to prohibit joint-stock companies"?

Mr. Muir Mackenzie: No, none at all.

Mr. Lushington, legal assessor to the General Medical Council, gave evidence on several of the legal points involved in the Bills.

The Chairman: If you have not got a joint-stock company to deal with I suppose it is a partnership?

Mr. Lushington: Then it is a question of individuals and the Dentists Act applies. He thought if the Dental Bill passed without exemptions that a man who had been practising through a company could go on in his own name as an unregistered practitioner. Their lordships had been told that companies had been formed for the purpose of obtaining additional capital, but that course was also taken for the purpose of screening the assets from attack. He did not see what more capital was required for in these cases except for advertising. He would be surprised to hear that there was any part of England where there were not enough registered dentists for the work. There were very few districts where there were no registered dentists.

Lord Knutsford: We have very strong evidence to the contrary.

Mr. Lushington: The Registrar to the General Medical Council could give you evidence on that point, if you desire it, because he knows the addresses of registered men.

Mr. W. H. Winterbotham, solicitor to the General Medical Council, went into the witness-chair and submitted that in two specific cases which had been brought before the committee, the companies could be carried on as private concerns.

Mr. F. Butterfield, secretary to the Incorporated Society of Extractors and Adapters of Teeth, explained the conditions under which membership of that organisation was obtained. He stated that there were about 1750 towns and villages in Great Britain with populations ranging from 300 to 20,000 or 30,000 where there were no registered dentists established. He contended that good work was done by unregistered men in filling up the deficiency and gave instances of various towns in support of his contention.

Mr. Winterbotham was recalled.

The Chairman: Mr. Winterbotham, the committee has had before them the question of whether herbalists are affected or not by the Medical Bill. We held that they are not but we should like to have your opinion on the point.

Mr. Winterbotham: I listened to the evidence given by Mr. Blunt, and I gather that the company for which he spoke was not a practising company but an association of herbalists formed for their own mutual benefit. He said that they individually practised. The company does not practise and therefore it would not be affected.

The Chairman: We do not touch their practice as individuals. That is left untouched.

Mr. Winterbotham: Yes.

Dr. D. MacAlister, President of the General Medical Council, was recalled. In answer to the Chairman, he stated that the General Medical Council had no power to deal with any unqualified or unregistered person whatever.

Lord Knutsford: The only association of herbalists that has been brought under the notice of the committee is one which would not come under the Medical Bill?

Dr. MacAlister: They may come under the Apothecaries Act if they prescribe and dispense medicine. We have nothing to do with the administration of that Act. He further stated that the Bill gave no power to the General Medical Council which it did not at present possess.

This concluded the hearing of the evidence before the committee and the members then sat in private for the purpose of considering the Bills and their recommendations on them.

VACCINATION BILL.

One of the Standing Committees of the House of Commons on Wednesday, June 12th, took up the consideration of the Vaccination Bill, the object of which is to substitute a statutory declaration for the certificate of exemption on the grounds of conscientious objection required under the Act of 1898. Mr. Laurence Hardy was in the chair.

Several amendments, including one to extend the application of the Bill to Scotland, were ruled out of order by the Chairman as being beyond the scope of the measure.

Sir William Collins moved an amendment to Clause 1 of the Bill (which is the operative clause) with a view to making it legal for the parent to make the statutory declaration of conscientious objection before the registrar of births and deaths at the time of the registration of the birth. He stated that he intended that the commissioners for oaths and magistrates should still be competent to receive the declaration, but on the ground of additional facilities he wished to add the registrars to them. The father of a child was brought into relationship with the registrar when he registered the birth within six weeks of its occurrence, and that provided, as it were, the time and place at which the declaration of conscientious objection might be made.

Dr. Macnamara resisted the amendment as undesirable. He remarked that the Bill was not brought forward to take up the cause of the vaccinationist or of the antivaccinationist. It was to put an end to the cross-examination of applicants for certificates which had taken place in courts.

Sir John Tuke said that if the amendment were carried they might just as well repeal the whole of the Vaccination Acts which was, he believed, the object of several members of the committee.

Mr. Burns (President of the Local Government Board) declared that the object of the Bill as conceived by the Government would to a great extent be damaged and the existence of the Bill threatened if the amendment was carried. In his judgment the stipendiary magistrates, the commissioners for oaths, and the justices of the peace were far better qualified to receive the declaration of conscientious objection than was the registrar who might be a vaccination officer. A child's birth had to be registered in six weeks but vaccination need not take place for four months. However, the amendment would place a strong temptation upon the parent to register the birth and make the declaration at one visit. In that way they would practically diminish the discrimination of the parent. If the Bill was to become law this session he would appeal to honourable Members not to press the amendment.

On a division the amendment was rejected by 16 votes to 15.

After several minor amendments had been discussed

Mr. Pickersgill moved an amendment to permit either of the parents or "other person" to make a statutory declaration. He argued that it was often inconvenient for the father of the child to travel to a magistrate if there was none in his vicinity and thereby expense was incurred.

Dr. Macnamara, speaking as the representative of the Local Government Board, said that the amendment would strike a revolutionary blow at the whole English legal practice. Now an exemption was granted to a person who was liable. Here it was proposed to grant an exemption to a person who was liable through a person who was not liable.

On a division the amendment was carried by 16 votes to 14, the Government being thus placed in a minority of two.

The committee shortly afterwards adjourned.

The consideration of the Vaccination Bill was resumed by a Standing Committee of the House of Commons on June 18th, Mr. Laurence Hardy being in the chair.

Sir Henry Craik moved an amendment to the effect that the statutory declaration required by the Bill should be made before a justice of the peace only. He remarked that if a person had any conscientious objection to vaccination surely it would not be too much to ask that he should have the courage of his conviction and publicly declare his objection in open court.

Mr. Burns said that the amendment would seriously interfere with the scope of the Bill and therefore he could not accept it.

The amendment was by leave withdrawn.

Mr. Ashton moved a further amendment to the effect that the statutory declaration of conscientious objection could be legally made to the chairman of a parish council. However, this proposal was withdrawn after some discussion.

Sir William Collins then moved an amendment to the effect that exemption should be granted on the ground that the parent "conscientiously objected to the vaccination of the child." The provision in the Bill is that exemption should be granted on the ground that the parent "conscientiously believes that vaccination would be prejudicial to the health of the child." The honourable Member said that his amendment would limit the declaration to one of a simple objection to vaccination. As a member of the Royal Commission on Vaccination he said that this would be quite in harmony with its recommendations. The evidence before that Commission disclosed that the objection to vaccination was not entirely based upon the fear of physical injury. Dr. Creighton, who had written the article on vaccination in the *ninth edition of the Encyclopædia Britannica*, had rather based his objections on the ground that cow-pox was not a specific against small-pox. There were also objections on the ground of the impermanence of the protection of vaccination and some parents objected on the ground of the tender age of the child at which the present law of vaccination was enforced. He pointed out that in the case of the Education Acts there was no formula required of the special ground of conscientious objection. He might also add that in Germany the child need not be vaccinated till after the first year of life.

Sir JOHN TUKE said that there had been many attempts to broaden the basis of the Bill but none would broaden it more than this amendment would. He would not follow Sir William Collins into medical arguments but he would strongly press the Government not to accept the amendment. He referred to the condition of Scotland, where about 95 per cent. of that educated nation were vaccinated.

Mr. LUPTON remarked that besides the objections mentioned by Sir William Collins there ought to be taken into account the objections which many people had to vaccination on religious grounds. They did not believe in introducing diseases of any kind into the bodies of their children.

Mr. NAPIER pointed out that the amendment would open up the whole question of vaccination. The Members of the House of Commons would not be inclined at this stage of the session to enter into the consideration of such a large subject. However, he was anxious that the scandal which had arisen in the courts with regard to the granting of certificates of exemption should be put a stop to and therefore he did not want to risk the loss of the Bill by the introduction of the amendment.

Mr. BURNS said that if once they opened the flood-gates of medical difference for and against vaccination they would have to sit longer than the Royal Commission itself did. Personally he was, and had ever been, an antivaccinationist. It was because he shared the bulk of the views expressed by those who held these opinions that he would urge the committee not to jeopardise this Bill which had been brought in with cool and calculated deliberation to remove an admitted grievance. This would not be done if this medical controversy was entered upon. It would be absurd for any of them to say that this was the last word in the vaccination controversy. If he were to accept the amendment of Sir William Collins he was afraid it would be the last word on this particular Bill this session. He appealed to his honourable friend not to press the amendment which if set loose in the House of Commons would prevent the Bill getting through.

Mr. J. RAMSAY MACDONALD said that he had himself experienced a difficulty in making a declaration which limited the objection to the belief that vaccination would be prejudicial to the child. How, he might ask, could a layman know whether vaccination would prejudice the health of his child? He might also point out that there was no conscientious objection allowed in Scotland. Sir John Tuke must take that into account when he talked of 95 per cent. of the people there being vaccinated.

Sir WILLIAM COLLINS, in view of the statement made by the President of the Local Government Board, asked leave to withdraw his amendment.

The amendment was by leave withdrawn.

Mr LUPTON moved an amendment which was designed to give power to parents to make a declaration under the Bill with regard to their children who were born before it came into operation in January, 1908

Mr. BURNS opposed the amendment, which was rejected by 21 votes to 11.

After some further discussion the proceedings on the Bill in committee were completed and it was ordered to be reported to the House as amended.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

COURT, E. P., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Horsmonden District of the county of Kent.

DRURY, G. H., M.B., M.S. Edin., has been appointed Medical Officer and Public Vaccinator for the Fifth District of the Wells (Somerset) Union.

FANNING, J. J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Birr District of King's County.

FLETCHER, G. W. MORGAN, L.D.S. R.C.S. Eng., has been appointed Honorary Dental Surgeon to the Bristol Royal Hospital for Sick Women and Children.

GEDDIE, DAVID WATSON, M.A., M.B., C.M. Aberd., has been appointed Anæsthetist to the Royal Sick Children's Hospital, Aberdeen.

GOODWYN, HENRY, L.R.C.P., L.R.C.S., L.M. Edin., has been appointed Medical Officer for Bovey Tracey and Ilsington by the Newton Abbot (Devon) Board of Guardians.

LLEWELLYN, THOMAS LISTER, M.D., B.S. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Powell Duffryn and Rhymney Iron Companies (Monmouthshire).

LOCKETT, REGINALD FREDERICK, L.D.S. R.C.S. Eng., has been appointed Honorary Dental Surgeon to the Clevedon, Tickenham, Walton, and Kenn Dispensary.

LYON, T. M. M., M.D. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Mid-Calder District of the county of Edinburgh.

PEDDIE, C., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workhop Act for the Withnell District of the county of Lancaster.

PORTEOUS, HERBERT LLEWELLYN, L.R.C.P. Lond., M.R.C.S., has bee appointed a District Medical Officer by the Stroud (Glouceste shire) Board of Guardians.

RICHARDS, JOHN, M.B., F.R.C.S. Edin., has been appointed Medic Superintendent of the Joint Counties Asylum, Carmarthen.

RICHARDS, MORGAN, M.B., B.S. Durh., has been appointed Clinic Assistant to the Chelsea Hospital for Women.

SPAIGHT, HENRY WILLIAM, L.R.C.P., L.R.C.S., L.M. Irel., has bee appointed District Medical Officer for the Helston (Cornwal Board of Guardians.

VISGER, CHARLES, L.R.C.P. Lond., M.R.C.S., has been appointe Medical Officer to the Clevedon, Tickenham, Walton, and Ken Dispensary.

WILLCOX, W. H., M.D. Lond., M.R.C.P. Lond., has been appointe Physician to Out-patients at St. Mary's Hospital.

Vacancies.

For further information regarding each vacancy reference should b made to the advertisement (see Index).

AYR DISTRICT ASYLUM.—Junior Assistant Physician, unmarried. Salary £120, with board, apartments, and laundry.

BERMONDSEY MEDICAL MISSION.—Lady Assistant for six months, with board and lodging.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

BRADFORD POOR-LAW HOSPITAL AND WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £100, with rations, apartments, and washing.

BRADFORD ROYAL INFIRMARY.—Resident Surgical Officer. Salary £150 per annum.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Second House Surgeon, unmarried. Salary £60 per annum, with board, residence, and washing.

BURNLEY, VICTORIA HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with residence, board, and washing.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Assistant House Surgeon for six months. Salary £50 per annum, with board, residence, and laundry.

CANCER HOSPITAL, Fulham-road, S.W.—Medical Officer in Charge of the Electrical Department. Salary £26 5s. per annum

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, fire, gas, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months, renewable. Salary £60 per annum, with rooms, board, washing, and attendance.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Surgeon. Also Second Medical Officer to the Casualty Department. Salary at rate of £40 per annum.

EDMONTON WORKHOUSE, Upper Edmonton.—Assistant Medical Officer. Salary £180 per annum.

EGYPT. Sub-Inspector of Ophthalmic Hospitals, unmarried. Salary £500 a year.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £52 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Clinical Assistants.

GLOUCESTER, GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, N.—Honorary Medical Officer in Charge of Electrical Department.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100, with board, residence, and laundry. Also Assistant House Surgeon. Salary £50, with board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging.

INDIAN MEDICAL SERVICE.—An Examination for not less than 11 Commissions.

KIRKBURTON, NEAR HUDDERSFIELD, STORTHES HALL ASYLUM.—Locum Tenens for two months. Salary £3 3s. per week, with board, lodging, and attendance.

LEEDS UNION INFIRMARY, Beckett-street.—Assistant Medical Officer, unmarried. Salary £100 per annum, with board, washing, apartments, and attendance.

LEICESTERSHIRE AND RUTLAND ASYLUM, Leicester.—Senior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, apartments, and washing.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary £25, with board, residence, and washing.

LIVERPOOL EYE AND EAR INFIRMARY.—House Surgeon. Salary £80 per annum, with board and lodging.

LIVERPOOL WORKHOUSE, Brownlow Hill.—Assistant Medical Officer. Salary £80 per annum, with rations.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £120 per annum, with board and lodging.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 a year, with rooms, attendance, board, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80, with board and lodging.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Senior and Junior House Physicians. Salary £50 per annum, with board and residence in each case.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160.

Newport and Monmouthshire Hospital.—Junior Resident Medical Officer. Salary £80 per annum, with board, residence, and laundry.

Norfolk and Norwich Hospital.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

Oldham Workhouse.—Resident Medical Officer, unmarried. Salary £150 per annum, with residence, coal, gas, rations, washing, and attendance.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing.

Royal Institute of Public Health.—Demonstrator of Comparative Pathology and Bacteriology.

St. Mary's Hospital, Paddington, W.—Curator of the Museum and Assistant Pathologist. Salary £100 per annum.

St. Pancras and Northern Dispensary, 126, Euston-road.—Honorary Surgeon for Throat, Nose, and Ear Cases.

Scarborough Hospital and Dispensary.—Junior House Surgeon. Salary £80 per annum, with board and residence.

Sheffield Fever Hospitals.—Junior Assistant Medical Officer. Salary £130 per annum, with board, lodging, and washing.

Sheffield, University of.—Demonstrator in Physiology. Salary £150 per annum.

South Shields, Ingham Infirmary and South Shields and Westoe Dispensary.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

Stockport Union, Stepping Hill Hospital.—Resident Assistant Medical Officer. Salary £130 per annum, with apartments, rations, &c.

Tunbridge Wells General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, &c.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Surgeon to Out patients.

Wallasey Dispensary and Victoria Central Hospital.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board and service.

West Bromwich District Hospital.—Senior House Surgeon, unmarried. Salary £110 per annum, with, board residence, and laundry. Also Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and laundry.

West London Hospital, Hammersmith-road, W.—*Officer in Charge of X Ray Department.*

Western General Dispensary, Marylebone road, N.W.—*Senior* House Surgeon. Salary at rate of £100 per annum, with board, residence, and washing.

Worcester General Infirmary.—House Physician. Salary £80 per annum, with board, residence, and washing.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Whitchurch, in the county of Hants; at Henley-in-Arden, in the county of Warwick; at Stratton, in the county of Cornwall; and at Penarth, in the county of Glamorgan.

Births, Marriages, and Deaths.

BIRTHS.

Alcock.—On June 15th, at Downshire Hill, Hampstead, N.W., the wife of N. H. Alcock, M.D., of a daughter.

Brodie.—On June 13th, at Tetbury, Glos., the wife of Desborough Brodie, M.B., B.S., of a son.

Gervis.—On June 14th, at Hurdis House, Seaford, Sussex, the wife of Charles Berkeley Gervis, M.D., of a daughter.

Way.—On June 12th, at Kenilworth Lodge, Southsea, the wife of Montague Way, L.R.C.P. Lond., M.R.C.S. Eng., of a son.

MARRIAGES.

Groves—Miller.—On June 12th, at St. Mary's Church, Speenhamland, Newbury, Charles Nixon Groves, M.A., M.D. Oxon., to Frances Minnie, younger daughter of Frederick Montague Miller, J.P., M.R.C.S., L.R.C.P.

Joy—Angus.—On June 15th, at Independent Church, Brixton, S.W., George Percy Joy, M.A., M.B., Ch.B., to Jane Angus, eldest daughter of Alexander Angus of Aberdeen.

Macneill—*Graham.*—On June 14th, at the private chapel, Langholm, by the Rev. J. A. Seaton, Robert Archibald Macneill, M.B., Ch.B., Surbiton, Surrey, second son of John Macneill, National Bank House, Langholm, to Ida Doeg, younger daughter of Henry Graham Holmwood, Langholm.

Milward—Tilley.—On June 11th, at St. Augustine's Church, Edgbaston, by the Venerable Archdeacon of Birmingham, assisted by the Rev. H. R. Hall, rector of Boothby, Lincoln, Frederic Victor Milward, B.A., M.B., B.C. Cantab., F.R.C.S. Eng., son of the late Colonel Victor Milward, *formerly* M.P. for the South-Western Division of Warwickshire, and of Mrs. Milward, Tiddington, Stratford-on-Avon, to Elinor Mary (Nora) Tilley, eldest daughter of Ben B. Tilley of Cromartie, Edgbaston.

DEATHS.

Coates.—On June 16th, at The Hill, Laverstock, Salisbury, Harcourt Coates, M.R.C.S. Eng., L.R.C.P. Lond., aged 64 years.

Ley.—On June 16th, at his residence, 11, Longfield-road, Ealing, W., Henry Smith Ley, Captain Royal Navy (retired), the *dearly loved* husband of Sarah Ann Ley, and son of the late Commander George Ley, Royal Navy, of Rochester, Kent, in the 81st *year of his* age.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

BRITISH BIRDS.

We have received the first number of a publication called *British Birds*, of which the subtitle is An Illustrated Magazine devoted to the Birds on the British List. Mr. Howard Saunders contributes a paper on Additions to the List of British Birds since 1899. We are sorry to say that most of the birds therein mentioned *were identified* by being shot. In one instance, at least, the shooting appears to us to have been quite unnecessary—namely, p. 13. On Feb. 2nd, 1905, an adult male of this Alpine species (the snow-finch) was shot at Rye Harbour, Sussex, and shown in the flesh to Mr. M. J. Nicoll who was on the look-out for the bird, having noticed it among a large flock of skylarks the previous day. Having identified the bird why not let it alone? Mr. P. H. Bahr contributes a charming account of the osprey, illustrated by some beautiful reproductions of photographs obtained, we are sorry to say, in America, for this beautiful and interesting bird is reduced in these islands to a solitary pair or so. Mr. C. J. Whymper writes upon the position of the woodcock's ear. It is remarkable, for it is below and in front of the eye. Mr. Whymper says that he gathers that this fact is *not generally, if at all,* known. In this, however, he is mistaken. The magazine is interesting but we hope that it will be devoted to the preservation of rare birds and not to their "collection."

A NEGLECTED TEXT.

To the Editors of The Lancet.

Sirs,—When next Mr. John Pratt *engages in controversy on behalf* of Biblical authority for "the use of alcoholic beverages as medical *remedies*," he will be well advised to *neglect* the text which he has adduced in his letter of June 8th, for he might search the Scriptures diligently without discovering another petard to hoist himself with so effectually. The passage referred to runs thus: "It is not for kings, O Lemuel, it is not for kings to drink wine; nor for princes strong drink: lest they drink, and forget the law, and pervert the judgment of any of the afflicted. Give strong drink unto him that is ready to perish, and wine unto those that be of heavy hearts. Let him drink, and forget his poverty, and remember his misery no more."

Clearly this means that strong drink may indeed be given to the utterly wretched in order to induce oblivion (alcohol was probably the most effectual narcotic known at the time), but that those who have responsibilities which demand alertness of mind and a just discrimination should abstain. Having ruthlessly *torn* the passage in half and flung the prohibition to limbo your correspondent triumphantly produces *the other fragment* as an unanswerable proof of the truth of his contention and apparently proposes to hurl it in the *face of some* recalcitrant "members of a particular friendly society." I venture to predict that he will find himself no match for his opponents in textual warfare and such "methods of barbarism." Let him take his stand boldly by *common* sense (and the Higher Criticism if necessary!), not forgetting that there is an increasing *tendency* to regard the pronouncement of Lemuel's mother as uncommonly good advice and sound medicine.

I am Sirs, yours faithfully,

June 17th, 1907.

The Context.

X RAYS AND FIBROSIS OF THE OVARY.

To the Editors of The Lancet.

Sirs,—Can you inform me, in relation to the action of x rays in producing fibrosis of the ovaries and testicles, whether all the constituents of these organs are affected? In the case of the ovary is a premature menopause induced and is there any constitutional *effect similar to* that of ovariotomy—i.e., in temperament, &c.? What length or exposure is known to have caused *fibrosis?*

I am, Sirs, yours faithfully,

June 19th, 1907.

Kirros.

⁂ There is no positive *evidence* up *to the* present to show that the x rays can produce a premature menopause or sterility in the human female subject. From the fact, however, that atrophy of the ovary has been produced in small animals, such as the rabbit, and with much greater difficulty in the bitch, it would seem that the x rays have a selective action on the ovary, but that the success of the experiment is greatly dependent on the thickness of the tissues lying between the ovary and the surface exposed to the tube. Atrophy of the ovary in woman would seem to be impossible to *produce by* x rays from the fact that in experiments on the cadaver in which a radiometric pastille was placed over the ovary itself no change in the pastille was recorded after prolonged exposure.—Ed. L.

A MEDICAL MAN AND GOOD OPENINGS.

Our readers may remember that we have refused to assist Dr. F. F. Jay to get into communication with those of *our advertisers* who require to buy or to sell practices because we do not conceive that Dr. Jay is likely to prove a useful *intermediary. Dr. Jay* is now approaching our advertisers through a firm of agents and we recommend those of our readers who receive communications from him not to reply.

CYCLE SADDLES.

To the Editors of THE LANCET.

SIRS,—As a cyclist I have had trouble from perineal pressure and am anxious to find a saddle which will remove any difficulty and be a comfort in riding. Perhaps some of your readers who have suffered similarly can give me particulars of such a saddle and mention the tilt at which it should be placed to secure the best result. If they would do this they would confer a great favour on Yours faithfully,

June 15th, 1907. ALGEBRA.

THE ENGLISH EQUIVALENTS OF CUILLERÉE.

THE exact English equivalent of the French word "cuillerée" is often difficult to determine in reading French medical literature or on a continental journey. Cuillerée, a spoonful, is an ambiguous word, and frequently it is used without qualification. In the new Belgian Pharmacopœia it is stated that the term "cuillerée," standing alone, refers to the cuillerée à soupe or à bouche, the equivalent of the English tablespoon, and holding about 15 grammes of water. The cuillerée à café has a capacity of about four grammes of water and corresponds to the English teaspoon. The cuillerée à dessert is the English dessert-spoon and holds approximately 10 grammes of water.

THE SANITARY INSPECTORS' EXAMINATION BOARD.

THE following are the successful candidates in the examination for sanitary inspectors under the Public Health (London) Act, 1891, held in May, 1907:—Miss Clare Ballantyne (National Health Society), Miss Mabel Bhose (Royal Sanitary Institute), Mr. S. Bowers (King's College), Miss E. J. Charlesworth (National Health Society), Mr. A. E. Clutterbuck (Royal Sanitary Institute), Mr. E. S. Crook (Royal Sanitary Institute), Mr. J. Crowther (Royal Sanitary Institute), Miss Mary Davies (Royal Sanitary Institute), Miss D. Ebbetts (National Health Society), Mr. H. Hunkin (Royal Sanitary Institute), Mr. F. H. W. Large (in office), Miss M. Lowe (Royal Sanitary Institute), Mr. Duncan J. Menzies (King's College), Miss H. C. E. D. Ogston (National Health Society), Mr. A. Parsons (King's College), Miss C. J. Ryan (National Health Society), Mr. F. Savage (Royal Sanitary Institute), Mr. F. Seckerson (Royal Sanitary Institute), and Mr. C. H. Taylor (in office).

◆

R. H.—1. Authorities on infant-feeding are almost universally agreed that cow's milk appropriately modified is greatly superior to the commercially prepared infant-foods. It is only necessary in cases in which there is any difficulty in digesting fat to remove any of the cream from the milk previously to dilution. In other cases the milk should be diluted according to the age of the infant and a small quantity of cream and sugar-of-milk added. 2. The Soxhlet sterilising apparatus can be used conveniently for pasteurising. In the latter operation the temperature of the milk must be maintained at about 80° C. for 40 minutes. This can be done by a proper adjustment of the flame with the lid of the steriliser partly open. For accuracy a thermometer should be used. 3. A useful small book upon infant-feeding and rearing is one entitled "The Physiological Feeding of Infants," by G. Eric C. Pritchard, M.D. Oxon. (London: The Scientific Press. 1900. Price 1s.). If our correspondent wishes for larger works on the question he will find much material dealing with the subject in the works on "Pedriatrics," by T. M. Rotch, M.D. (London and Philadelphia: J. B. Lippincott Company. Price 25s.); and "The Diseases of Infancy and Childhood," by L. E. Holt, M.D. (London: Sidney Appleton. Price 25s.)

Mr. C. E. Richmond.—The General Medical Council is empowered to remove a practitioner's name from the Medical Register for matters connected with his address, by Section XIV. of the Medical Act of 1858.

ERRATUM.—In "Notes upon Health Resorts," at page 1668 of our last issue, the line "[FROM A SPECIAL CORRESPONDENT]," instead of following the general title, should have been inserted after the line "THE AUSTRIAN SPAS."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 20th, 1907.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall	Solar Radio in Vacuo.	Maximum Temp Shade.	Min. Temp.	Wet Bulb	Dry Bulb	Remarks.
June 14	30·00	S.W.	0·03	97	67	52	54	55	Cloudy
„ 15	29·96	S.W.	0·03	71	59	55	58	59	Raining
„ 16	30 10	W.	0·19	120	65	49	50	56	Cloudy
„ 17	30 17	W.	...	122	67	49	51	57	Fine
„ 18	29·99	S.W.	...	103	63	53	52	59	Fine
„ 19	30·01	W.	0·01	119	68	51	53	60	Cloudy
„ 20	29·91	WSW	...	121	66	53	54	56	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (26th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (27th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (29th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (24th).—ROYAL SOCIETY OF MEDICINE (MEDICAL AND SURGICAL SECTIONS) (20, Hanover-square, W.)—5.30 P.M.: General Meeting. Election of Officers and Council and Transaction of other necessary Business.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M.: Council Meeting. 8 P.M.: Annual General Meeting. Casual Communication:—Mr. M. F. Hopson: An Inverted Mandibular Third Molar. Valedictory Address:—The President. Resolutions will be submitted formally dissolving the Society and transferring all matters connected therewith to the Royal Society of Medicine.

WEDNESDAY (26th).—SOCIETY OF TROPICAL MEDICINE AND HYGIENE (20, Hanover square, W.).—8.30 P.M.: Address:—The President (Sir Patrick Manson). Lantern Demonstration:—Dr. Daniels.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (24th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—12 noon: Pathological Demonstration:—Dr. Low. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Mr. Paget.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. H. G. Adamson: Clinique. (Skin.) 5.15 P.M.: Lecture:—Mr. J. Cunning: Malignant Disease of the Cæcum and Colon.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 2.15 P.M.: Special Lecture:—Sir Dyce Duckworth: Treatment of Rheumatic Fever.

TUESDAY (25th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M.: Croonian Lecture:—Dr. W. J. R. Simpson: Plague.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. S. Taylor: The Graver Forms of Valvular Diseases of the Heart.

EDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. W. Harris: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. T. G. Stevens: Endometritis.

ORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson). 4.30 P.M.: Special Demonstration of Surgical Cases (Mr. H. Evans).

NDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. 3.15 P.M.: Special Lecture:—Mr. Carless: Cancer of the Stomach.

NTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: *Demonstration*:—Dr. Abercrombie: Nose and Accessory Sinuses.

ATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. R. Russell: Syphilis of the Nervous System.

DNESDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Dr. Robinson: Diseases of Women. 5 P.M.: Lecture:—Dr. Robinson: On Gynæcology.

EDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. T. P. Legg: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. A. H. Tubby: Surgical Diseases of Children.

ORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

ONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

URSDAY (27th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M.: *Croonian Lecture*:—Dr. W. J. R. Simpson: Plague.

OST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Mr. Edwards.

EDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. J. Berry: The Treatment of Hip Disease.

ORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel). 4.30 P.M.: Special Demonstration of Medical Cases (Dr. Auld).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Forsyth: Demonstration (Medical). (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture:—Dr. Garrod: Diabetes in Children.

IDAY (28th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. Low: Bilharzial Disease.

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NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. F. Buzzard: Acute Poliomyelitis.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Dr. Abercrombie: Nose and Accessory Sinuses.

ATURDAY (29th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Dr. Robinson: Diseases of Women.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

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The Croonian Lectures

ON

PLAGUE.

Delivered before the Royal College of Physicians of London on June 18th, 20th, 25th, and 27th, 1907,

BY W. J. R. SIMPSON, M.D. ABERD., F.R.C.P. LOND.,

PROFESSOR OF HYGIENE AT KING'S COLLEGE, LONDON; GOVERNMENT COMMISSIONER TO INQUIRE INTO CAUSES AND CONTINUANCE OF PLAGUE IN HONG-KONG, 1902, ETC.

LECTURE I.

Delivered on June 18th.

INTRODUCTION.

MR. PRESIDENT AND FELLOWS,—I esteem it a great honour to have been asked to deliver the Croonian lectures for this year and it is with a deep sense of responsibility that I undertake the duties. My predecessors in this important office have placed before the College the results of their scientific researches in anatomy, physiology, and pathology which have afterwards proved to be of the greatest practical value to the physician and surgeon in the domain of curative medicine. I am not in a position to follow in their footsteps, my province lying in another direction, and it would therefore be presumptuous on my part to attempt to throw light on my subject from that point of view. If I therefore depart from the usual course adopted in these lectures, with perhaps the exception of the late Sir John Burdon Sanderson who in 1891 lectured "On the Progress of Discovery Relating to the Origin and Nature of Infectious Diseases," it is because my work has been mainly concerned with the application of scientific medicine in its preventive aspects.

The subject I have selected for these lectures is plague. It is one which a few years ago could only have been treated from a historical point of view; now it is of intense interest, for it has suddenly become the most important epidemic disease of the present day. Plague has within ten and a half years caused in India over five million deaths, of which over four millions have occurred during the past five years. It is because of this mortality and because it is generally supposed, erroneously, I think, that so far as Europe is concerned plague is a disease of the past and will not prevail in epidemic form again, that I propose to lecture on this subject. I am further encouraged in doing so because the Royal College of Physicians has taken a very considerable interest in the recrudescence and development of plague, more particularly with reference to the great mortality it is producing in India, and has shown that interest by the deputation, headed by the President, which waited on the Secretary of State for India in July, 1905, representing to him the gravity of the situation in India.

DISCOVERY OF THE PLAGUE BACILLUS AND ITS RESULTS.

Plague is a very ancient disease but the *recent discovery* of the causal agent is so epoch-making that *it divides* its history into two distinct periods of very unequal length. The first period is that *previous to 1894*, before the discovery of the bacillus of plague by Kitasato and Yersin. The second covers the years which have elapsed since that discovery. One extends over several thousands of years at least; the other is only some 13 years old.

The fact that the specific bacillus is found in the buboes of the bubonic form, in the blood of the septicæmic variety, in the contents of the vesicles and *pustules* that sometimes appear on the skin, and in the sputum of pneumonic cases places the physician in a more favourable position for diagnosis of this disease than he ever was *before*. *It* provides him with a test, confirmatory or *otherwise*, of the suspicions he may have arrived at from the clinical symptoms of the disease and enables him to come to a conclusion with a degree of certainty which was previously impossible. It should also put an end in future to the controversies and discussions similar to those which invariably arose in former times when an epidemic threatened and which resulted in loss of valuable time before measures were taken to check the epidemic.

Smears from the contents of plague buboes or

pneumonic cases show usually on staining large nu bipolar microbes. In some cases, however, the micr few in number and in rare cases their presence is coverable by the microscope but only by culture and tion into susceptible animals. This is practically for the blood in septicæmic cases and also in bubor a short time before death. The typical plague bac their bipolar staining and ovoid shape are frequentl with others less typical having a great variety of fo cluding long and slender bacilli, and taking on the sta faintly. Spherical-like and disc forms may be foun buboes during life and in affected tissues after death. swollen and irregular-shaped bacteria do not stain their advanced stages and ultimately present only outline. The importance of these forms lies in the f they are prone to lead to mistakes unless the great va which the plague microbes may undergo are borne i Valuable as the morphological and staining charact of the plague bacilli are in times of plague, they ca wholly depended on to decide whether the first case unknown or suspected disease in a hitherto healthy are plague. Resort has then to be had to cultures in the case of plague give particularly trust results.

The *stalactite* growth in peptone broth which w covered by Haffkine is the surest culture test in other bacilli give a similar stalactite formation. drops of oil or butter fat may be added to the broth. In either medium kept in a condition of quietness the plague germs grow from the surface wards into the fluid in the form of stalactites. To the formation the flask has to be secured against the sl vibration and against sudden changes of tempe especially if applied to one side of the flask. In Lon the vicinity of the Underground Railway such are the tions that the stalactite formation is very difficult to If nutritive gelatin are used instead of broth and the is kept in the incubator at 35° C. the medium remai and the stalactite formation is more easily obtained particularly typical.

The involution forms which the plague bacilli ass dry agar are also very distinctive. They only app bacilli which have been recently removed from the of plague patients and are generally lost when the m has been cultivated for some time in the laboratory involution forms when quite typical are spheres and various sizes resembling yeast cells and are many larger than the bacilli themselves. They undergo changes according to the age of the culture. Norm first, they become slightly swollen and rounded; late size increases and they may reach in volume as much times that of the original bacillus. These forms at firs the stain well but subsequently portions of the cell more faintly. Later the whole cell refuses to stai ultimately there are seen only powder-like granules indi the position of the cell. In other cases the involution another form such as pear and crescent shapes and fila of unequal diameter.

A third characteristic is the appearance of the cult dry agar. When the plague bacillus is spread uniforml the surface of dry agar from which all condensation flu been evaporated the growth on culture is uniform possesses a peculiar appearance. When the tube is hel *horizontal* position with the growth downwards a examined through the depth of the agar by reflected li has the appearance of the sheen seen in the back looking-glass. Unless dry agar is taken this appearan not obtained, and instead of a shining uniform growth will be a layer of microbes of varying thickness and st over this growth will be colonies of different sizes sugge contamination by extraneous microbes. Inoculation o microbe into susceptible laboratory animals, such as guinea-pigs, and mice, furnishes an additional test in earlier cases.

The certainty of diagnosis which has thus been acquire the physician is of inestimable value on the first appear of suspicious cases in a community. Thus the public he authorities in this and other countries are able at onc *determine* whether a suspicious illness or death reporte them is plague or not and on the information so obtaine take immediately, if necessary, the requisite measure check the spread of the disease.

precision which was impossible before and many observations can now be confirmed by experiments. For instance, it is now absolutely proved that the epizootic of rats which has been observed so frequently as associated with plague epidemics is plague in rats. The relationship was formerly suspected, but now it is established. The isolation of the bacillus has also led to the discovery of Haffkine's prophylactic, the value of which as a preventive of plague is, as will be shown later, well established. Whether sufficient advantage has been taken of the new knowledge thus acquired will be considered afterwards.

It would be a mistake to suppose that because the present period has been so fruitful of results from a scientific and practical point of view that the past is sterile. On the contrary, it is full of observations of the highest importance, the value of which is only being slowly realised as greater experience in plague epidemics is gained. The clinical aspects of plague are as well described by the older authors as by the most recent, the mortality is as great to-day as formerly, the variation in the types of the disease was known, and the epizootic among rats and other animals, and the rôle which some of them play in the spread of the disease were recognised, although not proved to demonstration as now, and formed the bases of some of the preventive measures employed to check the disease. It will accordingly not be wasting time to refer briefly in this first lecture to some of the more salient facts connected with the history of plague. The antiquity of the disease, its endemic centres, its pandemics and epidemics, which are all so well described by Dr. J. F. Payne, a distinguished Fellow of this College, need not detain us.

THE PANDEMICS OF THE SIXTH AND FOURTEENTH CENTURIES.

Pandemics of great magnitude are fortunately few in number and far between. There have been several pandemics, but two only are recorded as standing out conspicuously as scourges of a particularly devastating character and the effects of which were felt for many years after they had disappeared. These were the Justinian pandemic in the sixth century and the Great Pestilence of the fourteenth century, later called the Black Death. The long interval of 800 years intervened between these two great pandemics of plague. Between them were many epidemics plague in Europe, Asia, and Africa, some of which assumed ore or less pandemic proportions, but none reached the dimensions of these two. The origin of neither is known, but in both great commercial centres played a prominent part in maintaining and distributing the infection. The Justinian plague, which continued over 50 years, first attracted attention by its outburst at Pelusium, which was then an emporium for the produce of the East and the West. The endemic centres of Mesopotamia, Arabia, and Æthiopa were in commercial relationship with Pelusium, and it is probable that the infection came from one of these. The balance of evidence is in favour of Æthiopa. It is a matter of interest to note that within recent years endemic centres of plague have been discovered in German East Africa and Uganda. The town in which plague reaches such dimensions as to attract more than local attention is seldom the one in which it originates. For instance, at the present day the pandemic now prevailing is commonly attributed to Hong-Kong and Canton, whereas the disease was brought to these cities from the Chinese endemic centre of Yunnan.

The great pandemic of the fourteenth century was also associated with large commercial centres, for it entered Europe by the important emporiums and marts situated at that period on the Volga and in the Crimea and which, as pointed out by Creighton, were the terminal marts of the northern caravans from China and the Far East. It should be mentioned, however, that they were also the marts connected with the trade routes from India. The origin of the pandemic has been ascribed to China and to India. The Russian records place its starting point in India. Clemow, in his recent work entitled "The Geography of Disease," points out that plague prevailed in India in 1332 and that probably the Russian chroniclers are correct. Wherever the pandemic arose there appears to have been for several years a wide diffusion of the disease in the large dominions belonging to the Tartars and the Turks who at that time ruled over the greater part of Asia. Galfridi le Baker Swynebroke set down the period of prevalence in Asia before plague entered Europe as seven years. When it did arrive it is estimated to have destroyed 25,000,000 of its inhabitants. England and Wales at the lowest computation lost 2,500,000 of its inhabitants, or about half of its total population.

For over 300 years after this visitation Europe suffered from fresh invasions of plague, which reinforced the languishing infections already existing from previous ones. In the countries attacked there were some epidemics in towns, which, though continuing only for a few months, are memorable for their great mortality. For instance, the epidemic in Venice in 1576 caused 70,000 deaths; that in Moscow in the same year, 200,000 deaths; that in Naples in 1656, 300,000 deaths; that in Rome in the same year, 145,000 deaths; that in Genoa, 60,000 deaths; and the epidemic in London in 1665, nearly 70,000 deaths. It was exceptional for an epidemic to recrudesce and occur year after year, which in India is almost the rule, so that in the latter case the mortality, though smaller in individual epidemics, gradually accumulates, with very few exceptions, to a proportion as great if not greater than that recorded in former times. Thus, for instance, in Poona, which is a town with a population of 120,000, over 40,000 of its inhabitants have died from plague in ten years, which is proportionally at least twice the mortality of the great plague of London in 1665. In Bombay over 150,000 of its inhabitants have been destroyed by plague. In this respect the history of plague tends to repeat itself. In the pandemic of the sixth century it is recorded that "if it passed over any place only slightly or mildly touching the inhabitants it returned there afterwards, leaving untouched the neighbours against whom it had spent its rage before, and it did not depart from there until it made up the full measure of the dead in proportion to the amount of destruction which it had brought on its neighbours."

THE EFFECT ON THE LIVING OF GREAT EPIDEMICS OF PLAGUE.

Great epidemics of plague not only destroy large numbers of people but they leave their traces on the living. The effects on the living have usually been very marked and very similar. They are mostly psychological and social in their nature. Great numbers of the living are unable to bear the strain of the scenes around them and the uncertainties of life which the epidemic brings too plainly before them. Minds which have hitherto been sober and calm become overwrought, unhinged, and hysterical. Excitability and suspicion are engendered, often leading to illusions, delusions, and excesses of all kinds, which in some instances become contagious and dangerous. The change is not sudden but comes gradually. First of all, the normal courage, solicitude for the sick, hope, and religious trust which belong to the healthy mind are unaffected, but later these are associated with intense pity, exaggerated religious fervour, and the deepest despair. Then they are followed by panic and a total revulsion of feeling in which the predominant features are fear, selfishness, callousness, and heartlessness, and later still, if the scourge continues, there is a display of all the most sordid and worst passions on the part of the unbalanced portion of the population.

Plague, above all disasters, tends to bring out for a time the weak points in humanity and seldom the virtues. Hecker gives an account of the frenzy and mania caused by the mental strain brought on by the terrible events associated with the Black Death. He describes the doings of the flagellants in Germany, Hungary, Poland, Bohemia, Silesia, and Flanders, who marched through the cities in well-organised processions and who bore triple scourges, tied in three or four knots, in which points of iron were fixed and with which they flogged themselves. Harmless and welcome at first they later became a terror to the inhabitants of every place they visited. He describes also the epidemic of dancing mania that followed and he gives an account of the cruel and fanatical persecution and wholesale massacre of the Jews who were accused of poisoning the wells and thus causing the plague. He says: "Already in the autumn of 1348 a dreadful panic caused by this supposed empoisonment seized all nations; in Germany especially the springs and wells were built over that nobody might drink of them or employ their contents for culinary purposes, and for a long time the inhabitants of numerous towns and villages used only river and rain water. ...... By this trying state of privation, distrust and suspicion, the hatred against the supposed poisoners became greatly increased and often broke out in popular commotions which only served still further to infuriate the wildest passions." The suspicion and rumours regarding the poisoning of the wells in the Punjab are only the reappearance of a part of the credulity and delusions which prevailed during the time of the Great Pestilence of the fourteenth century.

There were other effects besides these disorders of the mind. The whole social structure became seriously disorganised owing to vast tracts of country becoming waste land and an immense number of huts and houses becoming tenantless. Prices of commodities rose, rents fell, payment of the taxes on land could not be obtained. There were agrarian, labour, and political troubles. Labourers and workmen were scarce and demanded higher wages, and it was found impossible by laws, imprisonment, fines, or any other methods, to bring them to conform to the older order of things. A new era with a new spirit sprang into existence which in the course of years and after many struggles banished the old.

THE PERIODIC QUIESCENCE AND RECRUDESCENCE OF PLAGUE.

The epidemics of the East and West have generally been more or less synchronous with one another. The last pandemic of plague was in full activity in the seventeenth century and covered a large portion of Asia, Africa, and Europe, but towards the end of the century the disease began to contract its limits, leaving Western Europe free in the course of a few years, a freedom which, with one notable exception, has continued. That exception was the epidemic in 1720 in Marseilles, when 60,000 of its inhabitants died from plague which had been imported from the East. As regards the rest of Europe the retrocession continued, and in the course of 150 years plague not only disappeared from Europe altogether, but also showed a remarkable cessation in its old endemic centres of Mesopotamia and Arabia. What remained of the disease was shown by Tholozan to pass through a very definite stage of development, being mild at first, then virulent and again mild, and the preponderating element was mildness. The mild plague consisted of glandular swellings unaccompanied by fever, the swellings showing themselves in the groin, armpit, or neck. The epidemics which Tholozan studied were observed by him to be self-limiting in their extension and, as he points out, were not controlled by the plague measures which were often adopted after the plague outbreak had ceased. Within recent years the plague epidemics that arose from the old centres in Mesopotamia and Arabia were apparently incapable of wide extension and even under conditions seemingly most favourable for their spread. The conclusion from Tholozan's researches appeared to be that for epidemic plague endowed with qualities of diffusion, whatever that may mean, no quarantine on land would stop its progress, while for other epidemics of a self-limiting character quarantine on land was not required.

Following the retrocession and contraction of plague Europe has remained free for over 60 years, broken only by a short but virulent outbreak on the Volga in 1879, investigated by Dr. J. F. Payne and Surgeon-Major H. Colville; by a small outbreak at Oporto in 1899, and a few cases at Glasgow and Naples in 1900. Western Europe has been free for nearly 200 years, the last epidemic being at Marseilles nearly 187 years ago. The Great Plague of London occurred more than 240 years ago.

Quiescence of plague for varying periods is not a new feature in the history of the disease. It is necessary to emphasise this fact, for the long quiescence in Western Europe has given rise to the view that Europe has seen the last of its plague epidemics, and accordingly the epidemic now prevailing in India is viewed with regrettable complacency. I think this view of the invulnerability of Europe is as likely to be as correct as the prevalent notion that London was freed of plague by the Great Fire, irrespective of the fact that plague remained in London for 14 years after and that the disease disappeared from the whole of England and most of Western Europe about the same time.

Subsequently to the Justinian plague and its offshoots Europe, with the exception of an epidemic in Constantinople in 697 and another in Sicily, Calabria, and Constantinople in 749, remained free from plague for 400 years, and Syria, which is nearer the endemic centre of Mesopotamia, remained free for 200 years. Bagdad itself in the centre of the endemic area remained free for some 50 years at the commencement of the Abbasidic dynasty at a period of unexampled prosperity. Moreover, Egypt, which has suffered at varying intervals from devastating epidemics of plague during the past 2000 years, remained free from the disease from the eighth to the eleventh century, or a period of 300 years. Long immunity of towns as of countries is also not uncommon in regard to plague epidemics even when plague is in the country. When Bombay was attacked with plague in 1896 it had been free from the disease for 184 years, when Moscow was attacked in 1771 it had been free for 150 years, and when London was attacked in 1499 it had been free for 150 years.

Various explanations have been given of the retrocession of plague from Europe. It has been ascribed to the social and sanitary improvement of the people since the seventeenth century; it has recently been set down to the invasion of the Mus decumanus at the beginning of the seventeenth century and the retirement, except from the seaports, of the Mus rattus; and it has been attributed to the abandonment of overland routes as the principal means of transport and communication between the East and West, to the substitution of sea routes, and to the introduction of quarantine at seaports trading with infected countries. None of these explain in a satisfactory manner the sudden retrocession of plague which stands as a remarkable epidemiological fact, but individually and collectively they may have exercised an important influence in keeping the disease in check once it had receded. Probably the most powerful of these was the change of land routes to sea routes whereby the transport of goods from the East to Western Europe was no longer effected by caravans which passed through the endemic centres of plague in Mesopotamia and Arabia. It was a change which must have materially lessened the chances of infection and of importation of the disease. From this point of view the new railway schemes which are to link the East with the West and reopen the old overland trade routes are not unlikely, unless special precautions are taken, once more to bring with them the risks of plague importation.

THE GENERAL CLINICAL FEATURES OF PLAGUE.

Clinically, plague presents the same features to-day as those described by the most ancient writers on the subject. The accounts of the disease are remarkably alike whether given by Dioscorides and Posidonius in the third century before the Christian Era and referred to by Rufus a century later when writing of the plague prevailing in Lybia, Egypt, and Syria, or by Procopius in the sixth century, or by Guy de Chauliac in the fourteenth century, or by Skeyne in the sixteenth century, or by Diemerbroeck, Lodge, Hodges, or Boghurst in the seventeenth century, or by the numerous writers on plague since that time up to the most recent years.

The glandular swellings in the bubonic form, the coughing of blood in the pneumonic, the extreme prostration, pallor, muscular weakness, delirium and rapid death in the septicæmic, and the appearance of boils or blains in the carbuncular type have been observed and described in both ancient and modern epidemics of plague. Procopius graphically describes the sudden onset and fever, the appearance on the day of attack or the next day or a few days later of the bubo in the groin and armpit and sometimes in the neck, the drowsiness in some, the madness in others, the desire to wander, and the difficulty of keeping some patients in bed; he mentions the large size and suppuration of the bubo as indicating a milder attack and the reverse a severe and fatal illness and he draws attention to a feature which every physician soon learns for himself—viz., the uncertainty of prognosis. The patient's appearance is most deceptive and cannot be taken as a guide; patients pronounced to be getting well will not infrequently suddenly die and others in whom all hopes of recovery are abandoned recover with a rapidity that is marvellous. Procopius does not forget to record the comparative immunity of physicians and attendants.

The description by Guy de Chauliac of the epidemic of Avignon in 1348 is of special interest because it is written by a medical man of high standing in his day and because it distinguishes more clearly than others before him the pneumonic and bubonic forms of plague. Guy de Chauliac was himself attacked with plague towards the end of the epidemic but recovered. He says: "I felt a continued fever with a swelling in the groin and was ill more than six weeks in such great danger that all my friends thought I should die, but the swelling ripening under the treatment I have described, I escaped by the mercy of God." The treatment consisted in the application of figs and cooked onions mixed with plantains and butter, to ripen the swellings, followed by incisions and the usual treatment of open sores. Describing the epidemic he says: "The plague commenced in January, it continued seven months during which time it appeared in two forms. During the first two months it was accompanied by a continuous fever and with a coughing of blood. All who were attacked died in three days. During the other months the continuous fever was accompanied with tumours and boils which appeared on the external part of the body chiefly in the armpits and the groin. Those who were thus attacked died in five days. The disease was so severe and so contagious, especially that which was attended by coughing of blood, that it was contracted not only by visiting and living together with the sick, but by being in their presence, so that people died without service and attendants. Men were buried without priests and without religious rites, the father abandoned the son, and the son approached not the father. Charity was dead and every hope lost."

The very infectious character of pneumonic plague as distinguished from the other forms of the disease is now fully established, and it is the one form which is dangerous to medical men, nurses, and attendants on the sick. The sputum and blood coughed up teem with plague bacilli, as was first shown by Major L. F. Childe of the Indian Medical Service. Fortunately, most epidemics of plague partake more of the bubonic than the pneumonic variety, otherwise the liability to infection would be as great as it is in influenza.

VARIATION IN TYPE AND BEHAVIOUR OF DIFFERENT EPIDEMICS.

All epidemics are not alike, although their general characters are similar. The bubonic, pneumonic, septicæmic, and carbuncular varieties of the disease may vary much in their relative proportions in different epidemics, and symptoms may be present in some epidemics which are absent in others. The situation and relative position of the buboes may differ, and instead of being with the usual frequency in the groin, armpit, and neck may be found in the popliteal space, elbow, and other positions. In older epidemics carbuncles and tokens or petechiæ were observed, but they have been rare in later epidemics. In the epidemic of the sixth century affections of the throat and withering of the limbs and gangrene were added to the buboes, carbuncles, and black boils, or pustules; in the fourteenth century the pneumonic form was particularly prevalent; in the sixteenth and seventeenth centuries sweats were a distinct feature. In the plague of London there were coloured sweats. Hodges says: "These sweats also of the infected are not only profuse, but also variously coloured; in some of a citron hue, in others purple, in some green or black, and in others like blood. The sweat of some would be so fœtid and intolerable from a kind of empyreumatic disposition, possibly of the juices, that no one could endure his nose with the stench." Nothing of this kind has been recorded in recent epidemics, nor have the carbuncles which formed a very conspicuous and common feature in many epidemics been observed of late years with much frequency; when they have been observed the type of plague has generally been of a milder character. This mildness was also noticed in a number of the Egyptian epidemics contrasting much with other epidemics in which the carbuncles always signified a very fatal form of the disease. The comparative absence of nervous symptoms and septicæmic cases gave to the Cape Town epidemic a character differing in these respects from that of the Hong-Kong and Bombay epidemics which I saw. The Poona epidemic of 1906 also struck me as presenting fewer of the nervous disturbances which I witnessed there in the epidemic of 1897. It is noticeable that when the disease is comparatively mild views as to its non-contagiousness prevail, whereas when severity is its distinguishing feature contagion is in favour. Recent observations would indicate that both contagionists and non-contagionists were right to some extent, though their views were of the most opposite character. Pneumonic plague is directly infectious from man to man, the bubonic is not directly infectious, while the septicæmic may possibly be both directly and indirectly infectious. It would accordingly depend on the proportion of each of these varieties in an epidemic as to the contagiousness or the non-contagiousness from the disease being most predominant.

The great proportion of pneumonic cases in the epidemic of 1348 and the contagiousness of this form of the disease probably account for the rapidity which characterised its spread and which has recently been observed to be a marked feature in small local outbreaks of this form of the disease. If this pandemic be excepted together with a number of small local outbreaks of plague one of the peculiarities of plague is its slow progress from place to place, districts and towns close to those infected remaining for a long time free from the disease.

A frequently quoted instance is the Great Plague of London taking six months to travel from St. Giles's to Stepney. In Bombay the plague confined itself to the dock quarters before it spread to other districts. At Poona over six months elapsed before the disease established itself at Kirkee which was in daily communication with Poona and only separated by a river spanned by a bridge. During the first outbreak in Canton in 1894 in which 80,000 out of 1,000,000 inhabitants died from plague, the disease never crossed the narrow creek, some 20 yards wide, which separated plague-infected houses in the Chinese town from the European settlement of Shamien; neither Europeans nor the Chinese servants on the premises nor the rats in the foreign settlement were affected. The water here provided a check to the spread of the disease. It was also observed that the Chinese population living on the river did not suffer from the epidemic, which reminds one of a similar observation during the Great Plague of London. It is facts such as these and that animals living in the ground were affected by plague that gave rise to the view held by the Chinese and the older non-contagionists in Europe that plague was a soil disease and that the spread of it was due to miasmata from the ground. The discoveries of Manson and Ross have revolutionised our notions of miasmata, and from this new standpoint the miasmata of plague appear to be explained by the rôle which the rat and the flea play in the dissemination of the disease, but many links are wanting before a satisfactory explanation of the recrudescence of plague is available.

ANCIENT ASSOCIATION OF THE RAT WITH PLAGUE EPIDEMICS.

The association between plague and rats is a very old observation. Apart from scriptural references there is evidence derived from some of the ancient monuments and coins of the connexion being known. Apollo and Æsculapius are each represented with the rat at their feet. There was the famous statue of Apollo by Skopias in which the god has a rat at his feet. Snakes are destroyers of rats, and in Asia Minor and elsewhere before the advent of the cat harmless snakes were kept in houses and in the temples doubtless for that purpose. This practice probably explains the accounts so frequently given of snakes and serpents dying during epidemics of plague. Both the cat and the snake were venerated for their services to man.

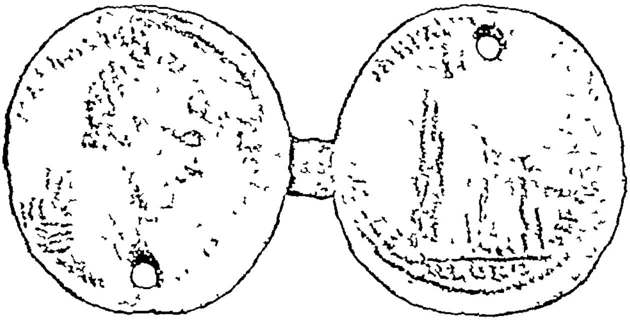
There is an interesting coin brought to my notice by Dr. Sambon and which can be seen in the collection of colonial Roman coins in the British Museum (Fig. 1). It is a coin of the Emperor Lucius Verus struck at Pergamum in Asia Minor during a plague epidemic and represents Æsculapius with a rat at his feet and a small human figure standing by with his arms outstretched in the attitude of fear or worship. In the same collection there is a medallion of the Emperor Antoninus struck in commemoration of the erection of a temple to Æsculapius on the Tiberine Island at Rome. Plague was epidemic in Rome and a mission was sent to the temple of Æsculapius at Epidaurus to ask for advice. The advice given by the Æsculapian priests was apparently to destroy the rats, for on the reverse side of the coin is the return of the mission with a serpent, being welcomed by the river god (Fig. 2).

The dissemination of plague by domestic animals was formerly recognised even more than it is at the present day and very decided views were held, particularly regarding those animals in close association with man; not only rats but also dogs, fowls, and pigs were held to be agents in spreading the disease. When plague prevailed in Europe these animals were as much inmates of the house as the people themselves and it was observed, as it is in South-Western China to-day where the same conditions prevail, that during epidemics of plague the rats, fowls, pigs, and cattle sickened or died, which was attributed to plague. In the pandemic of 1348 it is recorded by numerous observers that dogs, cats, fowls, cattle, and rats died from the disease. Skeyne in 1568, in his work on the pest, states that "quhan the domestical foules become pestilential it is ane sign of maist dangerous pest to follow." The observations became so general that they formed a basis for certain orders in regard to the suppression of plague.

Every European country has in its old orders concerning the checking of plague epidemics instructions to the inhabitants under certain penalties to kill domestic animals or to keep them confined to the house. Creighton mentions some of these orders as bearing on the regulations in England and Scotland against the spread of plague.

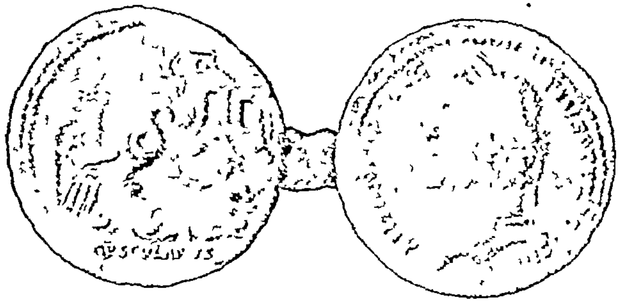
In the regulations in London against the plague in the seventeenth century it is ordered that no hogs, dogs, pigeons, or conies shall be suffered to be kept within any part of the City. In Rouen on April 14th, 1407, it was ordered under penalty that no person of any condition or rank should keep pigs. When plague broke out again in 1498 a similar order was issued, and in 1566 the priests of the Madeleine and Commander of St. Antoine were forbidden to keep in their houses pigs, fowls, and rabbits. At Evereux in Normandy a police order was issued in 1561 that every one of whatever quality or rank should not keep pigeons, fowls, rabbits, and pigs under penalty of confiscation and a fine of ten livres, and anyone giving information would receive half the fine. The killing of dogs is in nearly every order. A photograph, kindly lent to me by Mr. Henry Wellcome, of a painting in the archives of Bologna representing a plague epidemic in that town is interesting, as it illustrates the actual killing of dogs during the epidemic. The picture shows the magistrate and his officers on duty. Some of them are removing the dead which are being lowered from the windows of the infected houses; priests are also to be seen administering the Sacrament. In the foreground are some men killing a dog and a little farther back there is a dog transfixed with an arrow Similar measures for controlling plague were taken a· Palermo in 1575. Ingrassia says, "an excellent measure was proposed and carried out. All dogs, cats, and other animals that might convey the plague from one house to another were to be destroyed." Not only were the dogs of the town destroyed but all those within a radius of at least four miles. Fiochetto, describing the measures that should be taken in the event of the discovery of an infected person in any house, says "fifthly, having killed all cats, dogs, fowls, and pigeons prepare arsenic for the rats." No mention is made of fleas on these animals but it is evident that experience had taught the authorities that these animals sometimes by contracting the disease and sometimes by carrying the infection on their coats, furs, and feathers, though not infected themselves, conveyed plague. In connexion with the conveyance of the infection by animals not suffering from the disease there is the observation made by the Austrian Commission in 1897 of plague bacilli appearing in the fæces of a dog fed with plague material.

FIG. 1.



Coin of Emperor Lucius Verus commemorating plague epidemic.

FIG. 2.



Medallion commemorating erection of temple to Æsculapius by Emperor Antoninus.

The Cavendish Lecture

ON

THE CONSERVATIVE SURGERY OF THE ABDOMEN,

ESPECIALLY OF THE APPENDIX VERMIFORMIS AND ITS RELATION TO THE SURGICAL TREATMENT OF CHRONIC CONSTIPATION.

Delivered before the West London Medico-Chirurgical Society on June 21st, 1907,

BY C. R. B. KEETLEY, F.R.C.S. ENG.,

SENIOR SURGEON TO THE WEST LONDON HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—Set addresses and annual lectures are often so tedious that the question arises would not they be improved by a musical accompaniment. In a fine opera the dulness of the libretto is never observed until it is read at home without the singing and the orchestra. Therefore, well set to music a lecture's defects might wholly escape discovery. Original airs would be no more necessary during a Cavendish lecture than during a dance upon a tight-rope, which indeed it resembles when the lecturer trips along the edge of some great question upon which professional opinion is divided and is careful not to incline too much to one side or the other. I should ask my accompanist to begin with the Grenadier's song from *Iolanthe*—

> "I often think its comical,
> That every boy and every gal
> That's born into this world alive
> Is either a little Liberal
> Or else a little Conservative."

The average surgeon is less narrow-minded than the average politician; still we have among us men who seem to hasten to cut off, or to cut out, organs for insufficient reasons and others who imperil life unjustifiably in the endeavour to save limbs. Nay, our own consciences may have reproached ourselves for erring at one time in one direction and at another time in the reverse. Therefore, when I appeal to you this evening to take with me a short step or two in the direction of conservative surgery I am not so foolish as to regard myself as a Peter the Hermit or a Martin Luther preaching a crusade or a reformation. Never is it more desirable to be modest and cautious than when coming to a decision on the question whether it is better for a given patient to save an organ or to sacrifice it. Then, if ever, is the time to "gang warily." A greater dramatist than Gilbert made Portia say—

> "The quality of mercy is not strained,
> It droppeth as the gentle rain from Heaven."

Think of those ungentle and incautious surgeons who denounced the early ovariotomists as criminals. From them it was the quality of mercy descending, not as the gentle rain in season but like some ill-timed hailstorm, crashing down among the cornfields of July or, rather, among the blossoms of May.

There are still medical men who rarely fail to oppose or to delay fatally any radical surgical procedure that it may be in their power to obstruct. They plume themselves and sometimes go about telling some boastful tale of a limb saved, while forgetting the lives they have caused to be lost or spent in distress. However, what we are concerned with practically are not the early ovariotomists but the later ones, our own contemporaries. Are they not a little too ready to remove the internal organs of generation? Occasionally, as a general surgeon, I meet with patients who have had one or both ovaries removed for abdominal pain, which the sequel proves to have in all probability originated in quite a different part of the abdomen; then there is the practice of removing, as it were to complete an ovariotomy, the second ovary, lest it should afterwards be diseased. It is almost impossible for the second ovary to attain such a high standard of health and perfection as to ensure escaping from some operators. It must especially be careful not to be well developed. This spring I was consulted by a patient whose second ovary had been spared because it had the appearance of being atrophied and functionless. It afterwards enabled this lady to bear her first and only child—a healthy boy. Having due regard to the present state of abdominal surgery, surely, in a woman of child-bearing age, no ovary should be removed as a mere precaution against the risk of innocent ovarian tumour, because the patient can be watched and operated on early and safely if disease should actually appear, and in the meantime she can have the various advantages, not confined to fertility, of possessing an ovary.

We doctors not only have among us conservatives and liberals, but, to extend the analogy, we occasionally have outbursts of "unctuous rectitude." One of these a few years ago revolutionised a well-known hospital for women. After falling heavily on the innocent and nearly allowing some of the guilty to escape, it appears to have had the final result of deflecting surgical energy from the ovaries and tubes to the uterus. It is with great diffidence, and knowing well that I am not entitled to speak with authority on the point, that I would ask whether some cases of uterine fibroids in which hysterectomy is now performed could not be dealt with by enucleation of the growths. I am not referring to pedunculated or to purely subserous fibroids but to interstitial ones. The great mass of this kind of surgery goes, of course, to those who specialise, but a little of it occasionally comes my way accidentally owing to uncertain or mistaken diagnosis. Now, the chief objections to enucleation are, I suppose, the dangers of hæmorrhage and of sepsis. The practice of enucleating thyroid tumours gives an admirable training in dealing with bleeding in these cases and the open surgery of dislocations of the hip and shoulder points out the way to preserve asepsis in large, deep, complicated wounds. The case should be carefully selected and every preparation ready for hysterectomy be made. The uterus should be placed outside the abdomen during operation. As many fibroids as possible should be enucleated through the same superficial uterine incision, the finger or a blunt instrument being preferred when uterine tissue has to be divided, bleeding during operation prevented mainly by pressure with swabs and gauze packs, and finally also by a few catgut sutures round some of the uterine tissue. This gauze packing properly arranged protects alike against sepsis and recurrent hæmorrhage. The uterus should not be replaced in the abdomen until all bleeding has ceased and should be carefully inspected when inside. Of course, one end of each gauze pack is brought outside. It would be most desirable that both surgeon and assistants should have had previous experience in similar modes of operating in a less dangerous class of cases.

The appendix vermiformis is very near anatomically to the right ovary and Fallopian tube. In February, 1888, Treves read a paper before the Royal Medical and Chirurgical Society in which he described his first operation on this organ. To quote his own words: "In 1886 a patient with relapsing typhlitis came under my care at the London Hospital and after due consideration I proposed to 'deliberately seek for and remove his appendix.' I operated on him during a period of apparent health on Feb. 16th, 1887, and was able to correct the distortion of the appendix without removing it." The case is given at length in the Transactions of the Royal Medical and Chirurgical Society (vol. lxxi, p. 170 *et seq.*) and forms part of an epoch-making paper in which the whole subject of the surgery of appendicitis is briefly, but sufficiently and soundly, reviewed, and what is now known as the "interval operation" justified and recommended. My quotation is taken, for the sake of brevity, from a letter of Treves's to which I refrain from giving the reference, as it is unjust both to his own paper and to the Americans, to whom the surgery of the appendix probably owes more than to Europeans. The letter contains misplaced irony. I shall not be thanked for this defence. Too much sarcasm is a common fault of writers on the appendix. I myself avoid irony, which is to literature what the ostrich feather is to dress. A nodding plume is at once aggressive and attractive. Rightly worn it is a deadly weapon in the armament of the fair; but go to Whitechapel or Hammersmith on a Sunday and see the disastrous effect of putting it on the wrong way and dyeing it red, blue, and yellow.

In 1885 Charters Symonds had cut down upon the appendix and removed a fæcal concretion without excising the appendix.

Thus in the earliest two "interval operations" the appendix was left in the peritoneal cavity (walled off by adhesions in Symonds's case). Treves is, of course, a "London" and Symonds a "Guy's" man. If we think also of Mahomed, of Wilks, of Addison, and of Bright, it must be acknowledged that the insight into diseases of the appendix shown by Guy's men has been remarkable. They have always been before their time. But this mode of operating immediately gave way to appendicectomy. I ask you now to reconsider this matter.

Appendicitis is so dangerous not from the nature of the appendix but because of its position being intraperitoneal. No scruple was felt about amputating the appendix, because it was regarded as a useless structure—"an organic anachronism" Treves called it. But in 1904 Macewen[1] disputed this view and related interesting direct observations which he had been able to make on the functions of the appendix in a case of injury in which its orifice has been exposed to sight. Further, Weir[2] by his first operation of appendicostomy demonstrated that the appendix can be put to a surgical use. I myself had pointed out the possible surgical value of the appendix.[3]

What inference is to be drawn? Why, that when about to amputate a given appendix we should ask ourselves whether, in that particular case, it would not be better to preserve it, reverting to the original operations of Symonds and of Treves, but modifying them considerably, so as to give to them a safety and sufficiency which those original operations certainly did not possess. How is this safety to be given? The answer is by transferring the appendix from the peritoneal cavity and imbedding it in the abdominal wall, and by opening or amputating its distal end if its lumen is anywhere narrowed by stricture or other cause. I mean not a mere appendicostomy in which all but the stump of the organ is cut off, but the preservation and transference of the whole or of a great part of the appendix.

What cases are suited for this parietal transplantation of the appendix? 1. The healthy appendix in some cases of colitis, and in some of doubtful nature. 2. Appendices of which a fair length of the proximal part is free from stricture, kink, ulceration, and perforation, or which can be opened towards the distal end and cured of their defects.

The following cases are more or less unsuited: 1. Obliterated appendices. 2. Tuberculous, actinomycotic, and cancerous appendices. 3. Appendices which are gangrenous or perforated near the proximal end. 4. Appendices of which the base cannot be brought up to the parietal peritoneum without undue tension. 5. Those of which the meso-appendix is not long enough to permit them to be sufficiently straightened out or to be brought into the abdominal wall without dangerously interfering with their blood-supply. 6. Appendices which cannot be placed in good position in the abdominal wall without interfering with such drainage as the case may require. An extremely thick and fat meso-appendix is unfavourable but not an absolute contra-indication. In order to bring the base of the appendix up to the abdominal wall without tension it might be justifiable in some cases to free the attachments of the cæcum a little, but with due care of its blood-supply.

To take care of the main artery running to the appendix is an important point, to which I have to thank my friend Mr. L. B. Rawling for calling my special attention. In my own early appendicostomies I was protected from gangrene chiefly by good luck, as the only special precaution I took was to suture the base of the meso-appendix to the parietal peritoneum by a loose loop which did not strangulate the artery. Sometimes the appendix receives two arteries, one running near the cæcum supplying, say, the proximal fifth of the organ; but usually there is only one artery—viz., that which runs along or near the free margin of the meso-appendix. In all cases, therefore, except when a very short length indeed of the appendix is to be preserved in an ordinary appendicostomy performed on a person with a thin abdominal wall, great care should be taken not to strangulate the main appendical artery. If the base of the meso-appendix is very wide it may be button-holed and the edge of the parietal peritoneum and deep fascia united through the button-hole so as to make the appendix and its artery emerge at separate openings. I have found this quite practicable. Mere recent inflammation, or even such chronic inflammation and thickenings as are sometimes associated with mucous colitis are not contra-indications to parietal transplantation with appendicostomy.

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[1] THE LANCET, Oct. 8th, 1904, p. 995.

[2] New York Medical Record, August 9th, 1902, p. 201.

[3] Brit. Med. Jour., 1894, vol. ii., p. 1112.

Between what layers of the abdominal wall should the appendix be placed? I have tried various positions and prefer now to bring it through the deep muscles nearly opposite the aperture in the peritoneum, then through the aponeurosis of the external oblique close to, but not exactly over, that aperture, and finally to place the greater part of the organ on the surface of the external oblique beneath the fat and superficial fascia. Of course, with much subcutaneous fat the appendix must be placed obliquely to reach the incision in the skin. So far I have observed no sign of hernia in any of my cases, not even in patients with thick, fatty meso-appendices for which room had to be found. All have had a fairly long stay in bed, usually a month after operation, but I have had two or three up in the third week.

Closely related with the question of preserving the appendix is that of—

THE SURGICAL TREATMENT OF CHRONIC CONSTIPATION,

for which parts and their functions have been sacrificed to a remarkable extent. The treatment of chronic constipation by anastomosing the lower end of the ileum with the sigmoid flexure is Mr. C. W. Mansell Moullin's. His case is described in the Transactions of the Medical Society for 1901, p. 199. When writing a letter to THE LANCET in 1903 describing a case of chronic constipation in which I had suggested exactly the same treatment to a patient of Dr. Daniel Lehane's and Dr. W. Bezly Thorne's, I overlooked Mr. Moullin's case and now apologise to him. I had read the correspondence between him and Mr. Arbuthnot Lane about the case and had been misled by it. In that Mr. Arbuthnot Lane described his first operation reported in THE LANCET of Jan. 17th, 1903, p. 153, as being for "a comparatively common, simple, definite condition of mechanical obstruction." Short-circuiting the intestine for mechanical obstruction had been performed before then by other surgeons—e.g., Dr. O. Gilbert B. Kempe, probably by many other surgeons, including myself. So that when Mr. Moullin wrote that his case was similar to Mr. Arbuthnot Lane's he did himself an injustice and unintentionally misled me.

But it is impossible to dissociate the subject of the surgical treatment of constipation from Mr. Arbuthnot Lane, who, though not the pioneer, is at all events the apostle of it and a brilliant teacher, and from Arbuthnot Lane and from other sources I think we can gather enough to satisfy us that the operation of short-circuiting is not really a satisfactory one for constipation. Arbuthnot Lane says himself that "if the patient is careless and does not attend to the daily evacuation of the rectum, material may occasionally pass backwards into the cæcum and hard masses of fæcal matter may rest there and perhaps cause irritation."[4] "May occasionally!" It would be more correct to say "must frequently," because the fluid contents of the ileum flowing into the rectum are practically an enema and an enema does not need to be very large to ascend to the cæcum. This is constantly seen in cases of cæcal fistula. And patients are careless. Is there a more constipated class than that of female domestic servants or a more careless one? Voyagers to the "coast of Bohemia" in the "eighties" will remember the late John Edward Soden's recitation of "Eastbourne" wherein a bather emerging from the rather chalky waters of that charming town is baked by a hot sun into a plaster cast and mistaken for a statue by Phydias:—

"I thought of the careless housemaid
And was frightened out of my wits,
Who would come with her broom in the morning
And knock off my pointed bits."

—Mr. Arbuthnot Lane goes on to say that the hard masses irritating the cæcum are removed as a rule, easily by an enema, but that "if the condition recurs" he removes "the cæcum and ascending colon up to the flexure," but that "the ideal primary operation would be the removal of the large bowel down to the junction with the ileum." If this were to be taken literally, it would mean that the ileo-cæcal valve would be an ideal anus. Of course, the inspiration of this idea of removing the whole of the large bowel comes from Metchnikoff, and a very good source too.

Let us grant that the great Parisian histologist is very likely right and that what we regard as inevitable old age is really produced by the action of the bacteria of the large intestine, does it follow from that that the colon should be excised? There are other alternatives—e.g., there is Professor Metchnikoff's own plan of a particular diet inimical to the bacteria which do the mischief; there is appendicostomy which enables the whole large intestine to be washed out through and through as much and as often as the patient or his medical attendant likes; and, finally, there is a question which I should like to put, though I suspect many will give it a quick and contemptuous answer in the negative. Is it not possible to keep the human colon throughout life in a state of freedom from pathogenic bacteria approximating to that which exists at birth and for a short time afterwards? These bacteria are certainly introduced from without. It is natural to say that their entrance is inevitable. But no serious attempts commencing in early infancy have been made to prevent it, at least none which can be compared to the trouble which a surgeon takes to keep bacteria out of wounds, trouble which practice makes a pleasure or causes to be taken without any sense of effort. On the contrary, the neglect of every likely means of keeping bacteria out of the alimentary canal is almost universal. Uncleaned or only half cleaned are the mother's nipples, the baby's lips and nose, its rubber teat, the thumb it sucks, the coral ring it bites when teething. Its first teeth when they come are neglected because they are its *first teeth*. Then, throughout life, no attempt is made to secure anything like sterilisation of all the food, solid and liquid. He who suggests such an attempt is met by satire, especially from those jovial journalists who think human happiness is inseparable from dirt and neglect, pleasant society unattainable without beer, peace of mind without tobacco. Or he is told that the bacillus coli may really be a beneficent organism which breaks up some constituent of the fæces, such as fibres which have not been torn by the teeth and might not easily get through an anus which would pass comfortably a Murphy's button or a tenpenny nail.

In the *Hospital* of May 11th of this year it is reported that Mr. W. Arbuthnot Lane showed at Guy's on April 28th 11 patients (10 females and one male) on whom he had short-circuited the intestine as a treatment of *chronic constipation*, "so as to put the large intestine altogether out of action," the reporter adds. But I am sure Mr. Arbuthnot Lane never said that. The patients themselves said that previous to the operation they had suffered from wasting and from incapacitating pain and that since they had regained health and strength and were able to take their ordinary food and suffered from no inconvenience. In some instances the operation had been performed three years ago.

Now, if these were cases of genuine mechanical obstruction there is not much to say against the treatment and there need be no surprise at the results. But in the vast majority of the cases of chronic and obstinate constipation there is either no mechanical obstruction at all, or if there is any it is at the pylorus or even in the small intestine. Further, we ought to have a precise and sufficient, if brief, report of each case. Was, for example, the condition of the appendix vermiformis always carefully noted? If it was not healthy perhaps an equally good result might have been obtained from ordinary appendicectomy. It must be remembered that Mr. Arbuthnot Lane regards appendicitis when not caused by a foreign body as a mere incident of chronic constipation and as a matter of fact there is a history of constipation "immediately preceding the attack" in 43 per cent. of cases of appendicitis.[5] Now the whole includes the part, so that if the cæcum and half the rest of the colon are excised the appendix comes out with them. Further, the population of the British Islands is about 40,000,000, of whom 0·1 per cent. are medical men, and many educated laymen see a medical journal now and then, so that in the minds of 40,000 medical men and an unknown, but large, number of the laity Mr. Arbuthnot Lane's name is inseparably linked with the idea of the surgical treatment of constipation. In these circumstances 11 patients were not a very large number to show at Guy's.

After being first rather taken with the idea of performing ileo-sigmoidostomy for obstinate constipation the more I reflected on it the less I liked it. There was a certain amount of experience to draw conclusions from. Cases had been recorded of ileo-sigmoidostomy for the relief of other conditions and experiments on animals had also been made. Moynihan sums up the inference to be drawn as follows: "Unilateral exclusion ...... in the large intestine does not prevent, at any rate for more than a short period, the backward flow of fæcal matter."[6] It may be said that when with an ileo-sigmoidostomy the ileum is cut in two the whole colon is converted into a long cæcum—not an improved condition, although I do not agree with the practice of calling the cæcum a cesspool. What analogy can there be between a cesspool and a rounded contractile bag with an aperture to empty it of a diameter nearly equal to its own, a bag which is alive, which is lined with secreting epithelium, endowed with a muscular wall, compressed by the muscles of the abdominal parietes, and nearly always found when examined to be full, not of fæces, but of gas?

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[4] THE LANCET, Dec. 17th, 1904, p. 1699.

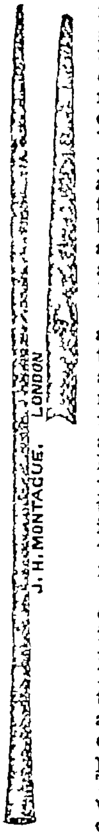
[5] Howard Kelly and E. Hurdon, p. 350.

And with regard to the real or supposed harmlessness of removing half the colon or more several thoughts present themselves. It is true that nutrition may be well preserved when no less than 17 feet of small intestine or even three-fourths of the liver are excised, but such facts do not settle the question. All maiming operations of the kind deprive the subject of reserve capacity of which he may one day be in need. The whole power of the large intestine to absorb fluid seems to be necessary to save the lives of some acute cases and of some patients just submitted to severe operations. A man may not miss one kidney, but that can only be so long as the other acts fairly well. And great as has been the advance of surgery it has not entirely abolished the dangers of more or less prolonged abdominal operations.

Sir William Macewen has a long paragraph referring very amusingly to the man of the future when completed by the surgeon—i.e., when deprived of his prepuce, his tonsil, his pharyngeal tonsil, his appendix vermiformis, his superfluous intestinal loops, his stomach, and his teeth, and when final arrangements are made for nourishing him with pellets of concentrated essences, sent out daily by manufacturing chemists and delivered by the local postman. I regret that we have here more irony. That one might think inseparable from disquisitions on the appendix if one reads only Treves, Lane, and Macewen, but one would be mistaken. There are Mayo Robson and Battle, one from Yorkshire, the other from Lincolnshire, where the people are very modest, and there is Lockwood, another Yorkshireman, with a gift of sarcasm, but who makes little public use of it. There are Tubby, Eccles, and Corner whose vast output of work leaves them no time "to deceive the world with ornament" or with irony, and there are many serious foreign and American authors. I have been greatly indebted to one of them, Howard Kelly, for references. Still the power of the appendix vermiformis to excite the spirit of sarcasm in men of genius is wonderful. One may see it in the daily press frequently. Genius must be allowed to have its way, even in such extreme cases as that of Baudelaire the French poet, for example. He did not excise the colon or shake the red plume of irony at all and sundry, but he kept a black mistress and dyed his hair green. One may admire without imitating. For myself, I sometimes excise part of the colon, though not for constipation. When I dissent from the views of other surgeons it is with great humility. I avoid irony and I do not dye the remains of my hair green.

I would suggest that the present and practical treatment for those cases of constipation and of bacterial infection of the large intestine which are grave enough to appeal to surgery is appendicostomy. I have now performed this operation 16 times, nine times in hospital and seven in private (with Dr. James Crombie, Dr. J. A. Shaw-Mackenzie, Dr. E. G. Younger, Mr. J. D. Roberts, Dr. A. L. Curtis and Dr. T. W. Bailey, Dr. E. A. Saunders, and Dr. Gilbert Richardson a case each). In the last the appendix had not been opened but merely placed in position, to be used if necessary after excision of the lower end of the ileum for tubercle, so that if not used it will not count.

In nine of the 16 cases the chief trouble was chronic constipation, in some of them amounting to complete obstruction at the time of operation. In most the constipation had existed for many years; in one it had been lifelong. The length of time some of them had gone without a motion was remarkable. In Dr. James Crombie's case it was to be counted in months; in Dr. Seymour Taylor's, a hospital patient, which was my first case, three weeks, and she was only 17 years old. Their ages ranged up to 76 years. One case of acute suppurative peritonitis died in consequence of the prostration which induced me to inject neutral saline through the appendix and two cases of cancer died ultimately, but in no case did either death or any apparent danger result from the appendicostomy. A middle-aged man came into the hospital with gangrene of the whole gall-bladder and an abscess extending down to the right iliac fossa. I found the appendix obliterated and did a cæcostomy for purposes of nutrition (vomiting had been persistent), but he died. I also performed a cæcostomy after Witzel's method in an obstinately constipated young woman who a year before had had removed an appendix containing fæcal concretions. At the former operation it would probably have been better simply to have removed the concretions and preserved the appendix, placing it in the abdominal wall ready for an appendicostomy. I am about to publish the cases.



Now in every one of the constipation cases the appendicostomy answered its purpose. In some the daily injection of hot water suffices. In most a certain amount of sulphate of soda or of magnesia has to be added. The quantity needed has tended to diminish rather than to increase. There are some drawbacks. Nearly all the cases still keep the appendix open. Unless the catheter is passed regularly, the opening tightens up until the patient has to come to the surgeon to dilate it. I have found the dilatation easy, even when the catheter has not been passed for a week or more and the opening has seemed all but closed.

An appendicostomy properly performed is a clean opening, not giving egress to fæces. And it is a very small opening so that the patient has to use a special catheter such as that made by Mr. Montague of Bond-street and kindly shown to-night by Messrs. Krohne and Sesemann An appendicostomy for constipation which required a catheter to be left in it I should regard as a comparative failure. Mr. Roberts's patient, who is 76 years of age, wishes to know if her opening which was made for acute obstruction may be closed. I advise her no. If there be anything in Metchnikoff's views her open appendix may help her to become a centenarian, not to say a multi-centenarian. She is quite bright enough and young looking enough for her age.

I had intended when I began the preparation of this lecture to make it cover a much wider field so that there might be something in it likely to interest everybody. I should have liked in particular to refer to the kidney, of which not an ounce should be removed if there is a good prospect of its being restored to health and usefulness and to sarcomata in the excision of which there is great room for thought and care However, I am grateful for the patience you have already shown. Patience is the quality most required in attempting to preserve parts and their functions. But has not someone said genius is patience? I ought to fear, therefore, that you may receive my remarks with the irony which I so deprecate, but that I feel sure of receiving from you the same kindness, friendliness, and indulgence with which our society has treated me for 25 years—i.e., for the best part of my working life, which has been so much associated with it and which you have now honoured by the invitation to deliver the Cavendish lecture.

A STANDING SCOURGE.—Mr. Fontana, British Consul in the coast district of Benghazy, Tripoli, observes, in his report for the year 1906, that there are upwards of 300 British subjects and British-protected persons in the district. The public health for several years has been very good, no serious epidemic having occurred. "Ophthalmia, however, is a standing scourge, and counts its victims by thousands, and even by tens of thousands, among the children. Among the Arab population of the town, families of which two or three of the members are blind are by no means rare."

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[6] THE LANCET, Oct. 8th, 1904, p 1012.

THE INFLUENCE OF SCHOOL LIFE ON THE SPREAD OF SCARLET FEVER.

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THIS inquiry was undertaken at the request of the medical officer of health of Manchester, and the information on which the investigation is based is obtained from the reports made to the medical officer of health on every case of scarlet fever notified in the city of Manchester.

The total number of cases involved is 19,219. I have divided these into three groups of age periods—a division similar to that adopted by Sir Shirley Murphy in his report to the London County Council for 1894. These three groups are: (1) infants (ages 0–3 years), (2) school children (ages 3–13 years), and (3) adults (ages 13 years and onwards). In order that any inference drawn from the figures might be reasonably accurate the investigation was conducted in two parts, so permitting of comparison. Part I. deals with the years 1900, 1901, 1902, 1903, and 1904 and Part II. deals with the years 1898, 1899, 1905, and 1906.

The question of school influence can be approached in many ways. In the first place, the day of the week on which the onset of each case occurs can be ascertained. By this method one can see on which day most cases arise, and further, whether Saturday and Sunday, days of non-attendance at school, produce any influence in lessening the number of cases on certain days following, allowance being made for incubation. Again comparison can be made between the holidays and the school terms in relation to the days of onset. It is of importance also to ascertain if, as regards the day of the week, the onset in infants and adults corresponds or not with the results obtained in school children.

A second method of approaching the subject consists in ascertaining the total number of cases occurring among children of school age during the holidays and comparing this with the number of cases occurring during an equal period of time before and after the holidays. Further, the effects of the holidays on infants and adults must be compared with that in *children of school age*. One might expect infants to show only a slightly diminished incidence during the holidays. In adults also a fall may be expected, proportionately greater, however, than in infants, owing to the diminished number of cases amongst school children during the holidays. This fact, of course, would tend to lessen the number of cases in infants also, but the greater amount of contact during the holidays between infants and those members of the family who are of school age will in all probability counterbalance the diminished prevalence of scarlet fever amongst the latter. In adults the amount of contact is not increased as they are at work all day and are exposed to infection from school children mainly in the evening whether the schools are open or not; this observation refers chiefly to male adults but it is applicable in a less degree perhaps to females also, many of whom are employed in mills, shops, &c.

In 1861 Trousseau, writing on scarlet fever and measles, stated that in neither could the latent period be rigorously determined in the present state of our knowledge. Obermeier, writing somewhat later, stated that the latent period was unknown. Murchison, in the Transactions of the Clinical Society, gives a series of 75 cases and states that in

0 could the latent period have exceeded 6 days.
73 the latent period could not have exceeded 5 days.
54 " " " 4 "
20 " " " 3 "
16 " " " 2 "
3 " " " 1 "

and further that the largest latent period made out in any of the cases was four and a half days, and that in only two of the cases was it as long as four days. His conclusions were that: (1) the duration of the incubation period may be only a few hours; (2) probably in a large proportion of cases it does not exceed 48 hours; (3) it very rarely exceeds seven days; and (4) these cases do not lend support to the opinion expressed by some that the latent period in scarlet fever is larger in adults than in children.

Other opinions as to the period of incubation given in literature are as under: Bains, two days; Withering, from three to four days; Gendron, not over four days; Bateman, from three to five days; and Gee, less than one week. Herschman quotes the following cases exhibiting a definite maximum limit of incubation:—

A girl... ... ... maximum onset within 24 hours.
A man ... ... " " 36 "
A child ... ... " " 2 days.
A girl (age 10) ... " " 2 "
A boy (" 4½) ... " " 1½ "
2 children ... ... " " 3 "

Gerhardt and Pons record two onsets, each within four days, in men, and Squire records ten cases with onsets as follows: in one case, 1 day; one case, under 2 days; six cases, 2 days; one case, under 3 days; and one case, under 4 days. Squire and Gerhardt agree that the usual period does not exceed seven days. Henoch quotes a boy, age nine years, with incubation period of 36 hours. Anderson cites a case (age six years) of the same duration, and Russegger out of four cases found the incubation period to be in one case (a child) within 12 hours; in two cases (children) within 2 days; and one case (a child) within 3 days. These cases quoted are instances of scarlet fever arising after a single contact with a known case of that disease. The most frequent range observed in the series given is from one to four days.

Now as a result of my analysis of the scarlet fever records for Manchester during the nine years under consideration Tuesday was found to be the day on which fewest cases commenced to be ill amongst those attending school (Table A) and Friday the day on which the greatest number of onsets occurred.

When the facts of each case of scarlet fever in infants and adults are inquired into we find that children of school age are the most frequent source of infection in infants and adults. One would expect, therefore, that at some period of time after Tuesday and Friday we should find the fewest and greatest number of cases respectively in infants and adults and this period of time represents the average duration of incubation. Reference to Tables D and E shows that Thursday is the day on which fewest infants and adults are seized with symptoms of scarlet fever and we have seen that Tuesday is the day on which fewest school children take it. Furthermore, Sunday and Monday are the days on which most onsets occur in infants, the corresponding days for school children being Friday and Saturday.

It appears reasonable to infer from these tables, in combination with a series of cases of known single "contacts" quoted above, that the most frequent period of incubation is two days, three days coming next. Though this period may hold true in the majority of cases one must allow for the occasional cases which occur on the first and fourth days, and it appears that a range of from one to four days as the latent period would cover the greater number of cases of scarlet fever. On the basis that such is the most usual range of incubation I have prepared the following plan, showing the days which may be expected to influence the number of onsets on any particular day of the week. The particular day influenced is shown above the black line; the second—or main day of influence—herein called the medium day, is shown between the thin lines.

Sun.	Mon.	Tues.	Wedn.	Thurs.	Fri.	Sat.
Wedn.	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.
Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wedn.
Fri.	Sat.	Sun.	Mon.	Tues.	Wedn.	Thurs.
Sat.	Sun.	Mon.	Tues.	Wedn.	Thurs.	Fri.

From this it will be seen that the infection in Sunday cases is mainly contracted on Friday and to a less extent on Thursday, while Wednesday and Saturday contribute fewer cases.

Monday cases are due mainly to infection on Saturday, a day on which the schools are closed, and to infection on Friday. As the medium day is Saturday one would expect fewer cases than on Sunday, for which Friday is the medium day. Monday also derives a proportion of its cases from infection on Sunday, again a day on which schools are closed.

Tuesday.—Here the medium day is Sunday and the day next in importance is Saturday—that is, the two main days concerned in the production of Tuesday's cases are days on which the schools are closed. One would expect, therefore, that Tuesday would appear at the bottom of the list.

Wednesday should show a slight increase on Tuesday's numbers, for, although both Saturday and Sunday play part in the production of its cases, yet Monday is the principal day and Sunday next in importance.

Thursday should show a distinct rise on Wednesday; the medium day here is Tuesday.

Friday.—Here all the contributory days are school days; the medium day is Wednesday.

Saturday.—Here, also, all the contributory days are school days.

One would expect therefore that Friday and Saturday should head the list, that Tuesday *should* be at the *bottom*, and Wednesday next. Monday should probably be next to Wednesday, as here the main day is Saturday, when the schools are closed, but Friday, the day next in importance in causing Monday's cases, is a day on which we have seen many cases should arise. Hence one would expect Monday to stand a little higher than Wednesday. Between Thursday and Sunday there should not be much difference. If anything, theoretically Sunday should have slightly more cases, as its main day is Friday, whereas Thursday's main day is Tuesday, when few cases should occur. This might be expected to cause a greater difference were it not that one of Sunday's contributory days is Saturday (when schools are closed). Consequently the greater risk of exposure on *Friday in Sunday's cases* (as compared with *Tuesday in Thursday's cases*) is partly balanced by the diminished risk on Saturday. The order on the above hypothesis therefore would be Tuesday, Wednesday, Monday, Thursday or Sunday, Friday or Saturday. It must be remembered that this theoretical order is made on the assumption that schools do exert an influence and it is made only for comparison with what one would expect and the actual facts as shown by the subjoined statistics relating to scarlet fever in the city of Manchester during the years 1898 to 1906 both inclusive.

To these statistics I must now direct attention. Table A shows the day of onset in all children aged from three to 13 throughout the year—i.e., both school days and holidays are included:—

TABLE A.

—	1898	1899	1900	1901	1902	1903	1904	1905	1906
Tuesday ...	52	106	211	189	178	163	182	175	222
Wednesday	57	120	214	214	174	160	158	189	147
Thursday ...	52	120	210	238	203	193	209	231	277
Friday ...	83	134	209	282	255	181	183	252	306
Saturday ...	78	123	241	231	210	190	198	247	290
Sunday ...	59	114	329	231	206	196	194	209	257
Monday ...	59	90	240	235	203	182	182	209	250

Order.	Total number.	Per cent.	Order.	Total number.	Per cent.
Tuesday ...	1478	12·55	Thursday ...	1733	14·71
Wednesday ...	1533	13·01	Saturday ...	1808	15·35
Monday... ...	1650	14·01	Friday... ...	1885	16·00
Sunday... ...	1695	14·39			

An examination of this table shows that Tuesday occupies the lowest position and Wednesday next lowest, followed by Monday with an increase of 117 cases on Wednesday's total. Next come Sunday and Thursday and at the top Saturday and Friday. The range between Tuesday and Friday, the lowest and highest respectively, is 3·45 per cent. It is difficult to explain why Saturday should always be below Friday—perhaps a desire on the part of school children not to lose a holiday leads to concealment in a few cases on that day. This table follows in a most striking manner the theoretical *order arrived at with the exception just noted.*

Table A1 relates to the same figures as Table A, only they are so arranged as to show a comparison between the two groups of years.

TABLE A 1.

	First group (1900–04).		Per cent.	Second group (1898, 1899, 1905–06).		Per cent.
Tuesday	923	or	12·86	555	or	12·04
Wednesday	920	,,	12·82	613	,,	13·31
Thursday	1053	,,	14·68	680	,,	14·78
Friday	1110	,,	15·48	755	,,	16·72
Saturday	1070	,,	14·92	738	,,	16·04
Sunday	1056	,,	14·72	639	,,	13·88
Monday	1042	,,	14·52	603	,,	13·20

This table shows the two groups of years compared, and though the order in each group is not identical, yet in the main they agree—in that in each Tuesday, Wednesday, and Monday are bottom and Saturday and Friday stand highest.

Table A 2 shows the day of onset in school children for that period *only* during which the schools were open (i.e., it excludes any cases arising during the holidays).

TABLE A 2.

Tuesday	1326	Saturday	1655
Wednesday	1395	Sunday	1550
Thursday	1696	Monday	1513
Friday	1741		

These figures give the days the following relative positions:—

	Per cent.		Per cent.
Tuesday	12·31	Thursday...	14·81
Wednesday	12·95	Saturday...	15·36
Monday	14·04	Friday	16·16
Sunday	14·38		

This table which shows the day of onset in school children and is strictly confined to children actually attending school (onsets during the holidays being excluded) very remarkably supports the theoretical order I have suggested except that in actual figures Thursday stands higher in the list than Sunday. I have, however, already mentioned that the difference one way or the other between these days might be expected to be only slight. With a view to see if this order held good in the holidays also I have prepared the following Table C, and a comparison between it and the preceding one is very interesting.

Table C shows the onsets in days of the week during the *summer and winter holidays for the whole nine years*:—

TABLE C.

	Total number.		Per cent.		Total number.		Per cent.
Tuesday	152	or	15·11	Saturday	153	or	15·21
Wednesday ...	138	,,	13·72	Sunday	145	,,	14·
Thursday	137	,,	13·62	Monday	137	,,	13
Friday	144	,,	14·31				

In Table C it will be observed that during the holida the position of Tuesday and Wednesday relative to the oth days of the week no longer follows that seen during th period when the schools are open. The tendency for an big difference between the days is much less, the onse appearing to be distributed much more evenly over all th days of the week. In the case of children attending scho the range between the highest and the lowest day is 3·8 whereas during the holidays the corresponding range 1·59. The above figures relate exclusively to children c school age.

I will now briefly refer to the corresponding figure relating to infants and adults. Table D shows the day c onset in infants (0–3 years).

TABLE D.

	Total number.		Per cent.		Total number.		Pe cent
Tuesday	607	or	13·96	Saturday	610	or	14·0
Wednesday ...	610	,,	14·03	Sunday	686	,,	15·7
Thursday	580	,,	13·35	Monday	639	,,	14·7
Friday...	614	,,	14·17				

A consideration of these figures relating to infants show that the relative positions of the days vary greatly from tha seen in school children. In the case of the former Tuesday and Wednesday are no longer in the lowest position and further, Sunday and Monday displace Friday and Saturday at the opposite end of the list. The inference that may be drawn from these figures has already been referred to.

Table E shows the day of *onset in* adults (13 years and onwards).

TABLE E.

	Total number.		Per cent.		Total number.		Per cent.
Tuesday	311	or	14·73	Saturday	334	or	15·82
Wednesday ...	278	,,	13·17	Sunday	316	,,	14·97
Thursday	274	,,	12·98	Monday	313	,,	14·82
Friday	285	,,	13·51				

Here again it may be noted that Thursday occupies the lowest position and that Saturday, Sunday, and Monday stand high.

We may next direct our attention to another point of view from which we may study school influence. If schools do materially assist in spreading scarlet fever one would expect that during the holidays the number of cases among children of school age would be considerably less than during a corresponding period both before and after the holidays and further the fall in the number of cases during the holidays should be a gradual one, reaching a *minimum* at the end of the holidays. In addition, one would expect a rise in the incidence shortly after the reopening of the schools corresponding roughly with the period of incubation. I have prepared tables and charts which record the effects as seen in the Manchester schools. Sir Shirley Murphy in his report to the London County Council, 1894, discusses this subject and shows that in 1892 and 1893 a marked decrease occurred in the number of cases notified at a time which corresponded with the summer holiday of the children attending London School Board schools, and that there was a marked increase in the number of cases notified at a time which corresponded with the reopening of these schools, due allowance being made for the period of incubation and delay in notification. He also showed *that* this decrease was especially marked in the case of children of school age. I extract the following figures and remarks from his report :—

	0–3 years.	3–13 years.	13 years onwards.
4 weeks preceding	204	1026	220
4 ,, *of holidays* ...	189	808	181
4 ,, following... ...	176	1079	175

or, represented in percentages—

	0–3 years.	3–13 years.	13 years onwards.
4 weeks preceding... ...	0	0	0
4 ,, of holiday ...	−7·4	− 21·2	−17·7
4 ,, after	−6·9	+ 33·5	−3·3

"It will be seen that at each age there was a decrease in the number of cases *in the second period, but that this decrease was most manifest* in children at the school age. Again, while there was a decrease in the third period amongst infants under three and amongst persons over 13 the number of cases among children of school age increased by 33·5 per cent. These figures accord with a hypothesis that the interruption of the school operation was responsible for some part of the decrease in the second period of cases among children at school age, and that the increase among these children in the *third* period was largely due to the reopening of the schools."

Through the courtesy of Mr. C. H. Wyatt, director of education in Manchester, I have been supplied with the dates of the holidays during the nine years covered by this inquiry and have thus been able to arrive at figures showing the relative number of cases before, during, and after the holidays, all three observations being for a similar period of time.

Table F shows the number of cases for each year during the three periods in question :—

TABLE F.

Summer Holidays (Ages 3–13 Years).

	1898	1899	1900	1901	1902	1903	1904	1905	1906
Before ...	21	53	116	135	79	86	122	88	143
During ...	18	29	104	124	110	82	74	101	121
After ...	23	73	177	181	170	92	139	88	190

Winter Holidays (Ages 3–13 Years).

	1898	1899	1900	1901	1902	1903	1904	1905
Before	18	67	77	51	72	48	47	35
During..	14	41	59	39	61	36	26	46
After	23	67	89	73	94	64	55	45

Holidays Combined (Ages 3–13 Years).

		Increase or decrease per cent.
Before	1313	0
During ...	1085	−17·4
After	1648	+25·5

Table F 1 shows the two groups of years compared (school age) :—

TABLE F 1.

	First group (1900–04).	Per cent.	Second group (1898, 1899, 1905, 1906).	Per cent.
Before	430	0	883	0
During	370	−13·9	715	−19·0
After	514	+19·5	1134	+23·4

Table F 2 shows the corresponding figures for infants (0–3 years).

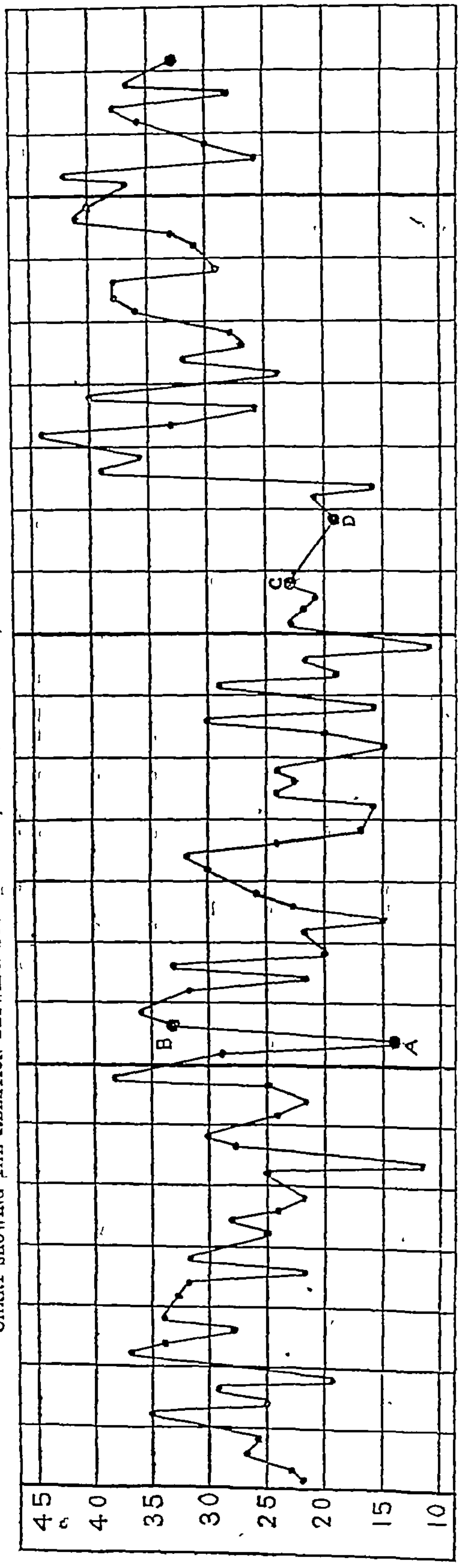

CHART SHOWING THE RELATION BETWEEN SCHOOL TERMS, SCHOOL HOLIDAYS, AND THE INCIDENCE OF SCARLET FEVER.

A, Last day of term. B, First day of holidays. C, Last day of holidays. D, First day of term.

TABLE F 2.

		Per cent.
Before	514	0
During	471	–8·4
After	51	+0·8

From these statistics relating to the Manchester schools it will be seen that both in infants and adults there is a decrease in the number of cases during the holidays, amounting in infants to 8·4 per cent. and in school children to 17·4 per cent. Again, in the period of the reopening of the schools, while there is an increase among infants there is a very much greater increase in the proportion of school children affected, such increase amounting to 25·5 per cent. These figures confirm those published by Sir Shirley Murphy in 1894.

In order to ascertain the manner of the decrease and increase I have prepared a chart which summarises seven of the years. (Two are not included as the holidays in those years (1898 and 1899) were shorter than during the seven succeeding years, in all of which the holidays were of equal length.) Reference to this chart will show that there is a gradual fall—subject to occasional exacerbations throughout the holidays—this fall reaching a minimum on or about the end of the holidays, and further that within four days after the schools reopen there is a very sudden increase in the number of cases of scarlet fever, such increase being more or less sustained throughout the month following the reopening. From charts prepared for each year it was evident that the fall during the holidays seen in the chart produced was not due to any great fall in a particular year but represented the summation of gradual falls in each year. The chart also shows extremely well the sudden increase in cases on the fourth day after reopening. It must be remembered that in all cases throughout this report onsets, and not notifications, are referred to, thus obviating any error due to delay in notification.

Conclusion.—In view of the facts shown in the foregoing tables and chart I think there can be little doubt that schools do assist in the spread of scarlet fever. The influence exerted may not be very great, but it exists and is by no means entirely negligible. On the very probable hypothesis that the most usual latent periods are two or three days (more especially two) and that with few exceptions the range is one to four days, I showed that the theoretical order in which the days of the week should stand, if schools do exert an influence, is as follows: Tuesday should be lowest, followed by Wednesday and Monday; Thursday and Sunday should not be widely separated, and Friday and Saturday should stand at the head of the list.

We have seen that Saturday is the day of the week on which we should expect the greatest number of cases of scarlet fever and after Saturday—Friday. Friday, however, is the day on which most cases actually occur. I have ascribed this slight reversal of the expected relation to the probable concealment of slighter attacks on Saturday, which is a holiday. Reference to Tables A and A 2 shows that such is the case in the particular period of time under consideration (1898 to 1906 inclusive) and for each of two parts of this period. The actual facts strongly support the assumption that two days is the medium latent period, closely followed by three days. Further, we have seen that in the holiday period this order is no longer maintained, but that the onsets are much more evenly distributed over all the days of the week (C).

The tables relating to onsets in infants and adults further support the inference drawn from Tables A and A 2—viz., that the closure of the schools on Saturday and Sunday is responsible for the fewer onsets on Tuesdays and Wednesdays. If such order had obtained in infants and adults some other explanation would have to be sought (Tables D and E). Viewed from the other aspect this influence is also seen to exist. In London a very considerable diminution in the prevalence of scarlet fever was experienced during the holiday period in all ages, but this diminution was most marked among children of school age. The figures for Manchester bear out in a striking manner the experience of London, and, further, the chart shows that this decrease in prevalence is a gradual one, reaching a minimum near the end of the holidays, and that within a few days (four) of the schools reopening there is a very marked increase of prevalence—an increase which is then sustained. Comparison with the London figures in this respect cannot be made, as the latter figures refer to notifications and the individual days are not differentiated.

Table F shows that the diminution in prevalence during the holidays obtains in both groups of years. It will be noticed that in two out of the nine years (1902 and 1905) there is an increase instead of a decrease during the holidays. This may have been due to accidental circumstances—e.g., a small epidemic in one particular neighbourhood, or to the force of an ascending epidemic. We cannot fail to be struck with the sudden rise in the number of cases when the schools reopen after the summer and Christmas holidays. It is not in this manner that scarlet fever usually ascends and we are led to inquire whether, perhaps, similar concealments are not practised during the holidays especially towards their termination, concealments resulting in an extension of the disease beyond the normal? It is not suggested that the depression of scarlet fever among school children during the holidays is other than real, but it may be that it is not so great as it appears to be from the facts obtainable. Those engaged in public health work are fully cognisant of the frequency with which overlooked and wilfully suppressed cases of scarlet fever are sent to school by ignorant parents. Many of such cases are detected by the occurrence of subsequent cases in the same house or school causing a strict inquiry to be instituted. One cannot believe, however, that all such overlooked and suppressed cases are detected and they in consequence continue to spread the disease.

We know that other diseases—e.g., ophthalmia, ringworm, and scabies—are frequently contracted at school. It is, of course, essential that the work of educating the children of the nation should continue, but it is no less essential that they should be protected as far as possible. This would appear to lie in the direction of a furthering of the present policy of educating the school teachers to recognise the early symptoms and signs of the principal infectious and contagious diseases, and in the establishment of a thorough and systematic medical inspection of all school children. The manner, however, in which this is to be performed does not lie within the province of this report.

Manchester.

RESCUE WORK IN MINES: LESSONS FROM THE COURRIÈRES MINE CATASTROPHE IN FRANCE.

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WHILE experience and statistics show that the occupation of the coal miner is not *per se* an unhealthy one, the risks attendant upon his calling are such as to render coal-getting one of the most dangerous occupations man can follow. The appalling catastrophe at Courrières in France, whereby on March 10th, 1906, 1100 men and boys lost their lives, stirred up an amount of public sympathy and consideration for a class of men who at certain times and under certain conditions go to work with less certainty of return than men engaged in most occupations. This uncertainty is well brought out in the few lines written by our local poet, himself a miner, Joseph Skipsey, in verses that are well known in the North of England and which confirm the impression I have tried to convey:—

> "Get up," the caller calls, "get up,"
> And in the dead of night,
> To win the bairns their bite and sup,
> I rise a weary wight.
>
> My flannel dudden donn'd, thrice o'er
> My birds are kissed, and then
> I with a whistle shut the door
> I may never ope again.

When all nations were, as one, united in expressing to France their deep regret at the great loss of human life at Courrières, Germany in her desire to give practical proof of her sympathy and of her eagerness to test the value of rescue apparatus offered at once to send trained men to assist in recovering the imprisoned miners, an invitation which was as gratefully accepted as it was cordially conveyed. This humane and prompt act on the part of a great nation is an illustration of the fact with which we as medical men are familiar, that in the application of science to the saving of human life there is no such thing as nationality. The disaster at Courrières has been made the occasion of reviving the subject of rescue work in mines and of again enforcing upon mineowners and medical men engaged in colliery practice the necessity of coming to some conclusion as to the best methods to be adopted in trying to reach and to remove miners imprisoned in a pit after an explosion. That there is some urgency in this matter is shown by the fact that since the Courrières catastrophe in France there has occurred in Great Britain mining disasters which, if on a small scale, have yet been attended by loss of life, as witness the colliery explosion at Wingate, county Durham, in October of last year, when 24 miners lost their lives. Subjoined is a summary of the explosions of fire-damp and coal-dust in the several mines inspection districts of this country, kindly forwarded to me by Mr. Walton Brown of the Mining Institute, Newcastle-upon-Tyne.

Year.	Fatal accidents.			Non-fatal accidents.	
	No.	Deaths.	Injured.	No.	Injured.
1900	25	45	29	128	178
1901	21	125	47	120	167
1902	23	63	33	133	172
1903	11	14	10	134	183
1904	17	22	25	134	190
1905	14	178	46	124	173

The figures for 1906 are not yet available.

The column "fatal accidents" is so named owing to the fact that in each particular accident a death or deaths occurred. The above table gives information as to the large number of lives lost every year in British collieries from explosions, notwithstanding the excellent ventilation of the mines and the vigilance exercised over the workmen.

It is unnecessary to draw attention to the sad spectacle exhibited, to the terrible havoc to human life, and the wreckage of plant observed in a coal mine after an explosion, nor need we discuss the question of the causes of explosions other than make this statement, that in addition to explosions the result of fire-damp the ignition of coal-dust in a dry mine by a naked light is now regarded as one of the most frequent causes of colliery explosions. Nor need we discuss at any length the dangerous gases met with in coal mines beyond making mention of the extremely poisonous character of the carbon monoxide that follows an explosion and the less poisonous nature of carbonic acid. In coal pits miners can go on working in places where the percentage of carbonic acid is so high that a candle will not burn, but there are limits to which this should be attempted. On the other hand, exposure to very small percentages of carbon monoxide even for a short period may give rise to serious symptoms.

While after a colliery explosion many of the miners must have been killed by the shock and by the flame, as indicated by the marks of burning, and its destructive effects, as exhibited by the corpses, by far the larger number have fallen victims to carbon monoxide poisoning. When an explosion occurs there is first a deflagration or a sudden combustion attended with flame and gas. There is an enormous gaseous expansion, owing to the heat produced, and this is followed by contraction. The hot gases pass along the way of least resistance and having exhausted the air there is created a void behind them. An explosion of fire-damp and oxygen is followed by a contraction, so that when the watery vapour is condensed the volume of the gas is found to have diminished two-thirds. The question has been suggested as to whether under these circumstances effects may not be produced upon the miners akin to those observed in caisson disease as the result of sudden compression and decompression. The explosion determines for a brief period a very elevated temperature and this is followed by a sudden fall. Dr. Firmin Dervieux, in discussing the medico-legal aspects of the Courrières catastrophe,[1] says that on the bodies of miners killed in explosions the effects of two different causes may be found—viz., wounds produced from without inwards and consequent upon the enormous pressure of gas at the moment of the conflagration, also wounds produced from within outwards during the cooling and contraction of the gases. These latter wounds are present only upon the bodies of dead miners found a little distance from the site of the explosion or in a gallery ending in a cul-de-sac. In this way may be explained the ecchymoses and multiple injuries when the wounds have been caused from without inwards and the tearing and rupture of the tissues and organs when developed from within outwards. In the blood of coalminers killed in this manner no trace of carbon monoxide hæmoglobin is found on spectroscopic examination. Many of these men are killed by the column of gas suddenly striking them with all the force of a projectile. It is this shock which kills. It may be so powerful as to tear asunder the limbs from the body and hurl them several yards away from the spot. Apart from the severity of the wounds the proof that the miners under these circumstances are killed suddenly is the absence of carbon monoxide hæmoglobin in their blood. On many of the dead bodies found at Courrières there were marks of burning. It is sometimes necessary to find out whether the burns occurred before or after death. The miners who perished in the explosion by expansion of the flame were not burned in the ordinary acceptation of the term. The burns inflicted under these circumstances are not serious, but as the air in the mine contains a large quantity of fine coal dust which becomes incrusted upon the skin of the injured men the black appearance of the body at first suggests a burn of the third degree. Nearly all the burns on the body are the result of the hot air. In the Courrières disaster there was, according to Dervieux, no flame in the ordinary sense of the word, or if so it must have been for only a very short period, for the clothes of the miners were not burnt, although the skin underneath was singed. It was not always easy at Courrières to distinguish between the miners who had died from burns and the corpses of the men who had been exposed to the action of hot gases. A spectroscopic examination of the blood did not always solve the problem. There were the charred bodies of men who had been burnt by the hot gases or who had died as the result of carbon monoxide poisoning before the fire reached them. Is it possible for absorption of carbon monoxide by the blood to occur in a dead body? I have exposed the dead bodies of animals (rats and mice) to fairly strong percentages of carbon monoxide gas for 24 hours and for as long as a week without finding any trace of carbon monoxide in the blood. The probability, therefore, is that no absorption takes place. In the Courrières mine the largest number of deaths was due to carbon monoxide poisoning. Several of the bodies were found in the position in which the miners had been working when death suddenly overtook them. The explosion had propelled a column of gas containing carbon monoxide, and as the gas became cooled in passing along the galleries the carbon monoxide suddenly poisoned the workmen who had inhaled it. When the percentage of this gas is enormous, as it must be after an explosion in a coal mine, and poisoning occurs on a large scale convulsions are absent. It is in the slowly induced forms of carbon monoxide poisoning that the locomotive powers of men who have been exposed to it become enfeebled. Of these slower forms of poisoning there were also evidences in Courrières, for owing to the small percentage of the gas in some places the men detecting the "bad air" and experiencing headache and vertigo had tried to save themselves, but as the gas travelled quicker than they could it continued to exert its evil effects. Some of the miners thus overpowered had fallen on their knees, others overcome by coma had fallen prostrate.

One of the most painful and distressing circumstances to the relatives of the deceased miners was the difficulty they had of recognising the bodies of their friends owing to the injuries and the extent to which putrefaction had advanced. To the rescue men the rapidity with which the corpses of the miners and horses putrefied and the repulsive odour that prevailed caused the work not only to be extremely unpleasant but a menace to their own health. While after an explosion it is the living and not the dead that have to be sought for, the continued presence of decomposing bodies in a mine becomes a risk to life. It appears that several of the wounded miners who were brought to the surface only lived a few days. Nearly all of them died from pneumonia either due to their having respired the hot air in the mine or as a complication of carbon monoxide poisoning. Dr. Lourties states that several of the miners died from pneumonia from 50 to 60 hours after the explosion. The inflammation of the lungs developed in each instance with great rapidity and was accompanied by high temperatures. The lesions in the lungs were extensive; they were lobar and not lobular and there was a greater tendency for the right than the left lung to be affected The proof that some of these miners who subsequently succumbed to pneumonia had respired carbon monoxide is to be found in the symptoms they complained of. The men said they had headache, vertigo, and an overpowering inclination to sleep, while in other patients the limbs were paralysed. In some of my own experiments with carbon monoxide gas I have found animals die from pneumonia and small hæmorrhages into the lungs two and three days after exposure to the gas. Pneumonia is occasionally, therefore, a sequel to the inhalation of carbon monoxide gas.

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[1] Annales d'Hygiène Publique et de Médecine Légale, December, 1906.

As far back as 1846 Sir H. T. de la Beche and Dr. Lyon Playfair reported that after a colliery explosion there is a sufficient quantity of oxygen present in the air of the pit to support the respiration of the surviving miners provided there is no excess of any poisonous gas present as well. Three years subsequently Dr. John Hutchinson proposed that after an explosion men should carry into the mine bags containing four or five cubic feet of air, so that they could exist in the mine for at least half an hour, the expired air escaping into the atmosphere. Hutchinson was afraid to recommend pure oxygen. In 1880 Henry Fleuss invented his apparatus which was used with some success in the following year at Seaham colliery. Two years after this David Rhys Jones invented his apparatus whereby oxygen could be carried by men into a mine after an explosion and made capable of sustaining respiration for half an hour. Since then considerable improvements have been made in rescue apparatus to which attention will be invited further on. To show how entombed miners after a colliery explosion may be reached and rescued and to enable firemen to enter premises filled with smoke and irrespirable gases is work upon which the physiologist, the chemist, and the mining engineer can unitedly bring to bear their respective sciences. In the earliest attempts men were provided with a tube, one end of which they placed in their mouth or attached to a helmet such as that worn by divers, and through this tube fresh air was pumped from without, but the disadvantages of such simple methods are that the tube might become kinked and owing to the distance the men might have to travel that the tube would become extremely heavy. It is therefore necessary to have an autonomous respiratory apparatus which will enable a man to carry with him a sufficient quantity of air to render him independent of the air outside and which shall be so secure as to cut him off from the possibility of breathing poisonous gases. When [illegible] air was tried in the earlier experiments it [illegible]s found that men could support themselves in a poisonous [illegible] for 20 minutes. Since then many improvements have been effected in rescue apparatus. Abroad one of the pioneers of the movement is Dr. Guglielminetti, whose experience as an aeronaut and an Alpine climber has given him many opportunities of testing the value of compressed oxygen and whose invention is the rescue apparatus now adopted by the Draegerswerk at Lubeck. The ordinary atmospheric air which we breathe contains in volumes 79·04 per cent. of nitrogen, 20·93 of oxygen, with about 0·03 of carbon dioxide, while expired air contains 79·6 volumes of nitrogen, 16 04 of oxygen, and 4 volumes of carbon dioxide. About the same qantity of carbon dioxide is given off in expiration by man as there is of oxygen absorbed. There is a kind of mutual interchange between these two gases. The nitrogen, on the other hand, plays no part in the respiratory interchanges. It is quite inert, and while opinions are divided upon the following procedure this circumstance is one of the reasons advanced for not using ordinary air in rescue apparatus, since to carry a sufficient amount of compressed atmospheric air there is too much weight added by the nitrogen, which after all is a gas not required for breathing purposes. By dropping the nitrogen the apparatus can be reduced to one half of the original weight. In the "aerolith," which is supplied by Simonis and Co, Norfolk-street, London, and which is identical with that invented by M. Suess, a mining engineer of Witkowitz, liquid air is used. I have seen the "aerolith" worn and was impressed by its utility. The drawback to it is the rapidity with which the nitrogen boils off compared with the oxygen. One of the strongest testimonies in its favour appears in a lecture recently delivered before the Paris section of the Société de l'Industrie Minérale by M. Weiss, who had carried out a series of experiments in Austria under the instruction of the Minister of Public Works, and who speaks of the apparatus when slightly modified as being extremely practical and capable of rendering service where workmen have to traverse galleries exposed to poisonous gases.

Similar experiments have been carried out in Germany with apparatus of the portable class and which provide for the delivery of oxygen to the wearer and absorption of the carbonic acid. Under this type of appliance come the Draeger, Meyer, and Shamrock. In Germany the "pneumatogen" has not been subjected to actual trial after an explosion, but it has been experimentally tried at the school of mines at Bochum in Westphalia. There the students attending classes are regularly drilled in the use of rescue apparatus. Opinions are divided as to whether the gas supplied to the wearers should be pure oxygen or liquid air. Some mine managers favour the liquid air apparatus on the ground that it is more secure, while others are sceptical as to the practical utility of all forms of rescue apparatus. Notwithstanding this the mines regulations of Breslau (Silesia), January, 1900, require that "in coal mines there shall be provided at each shaft two portable sets and a greater number if the engineer of mines shall so direct. The mine owner is expected to see that these appliances are always in working order, and that the workers, to a sufficient number, are exercised in their use. In Westphalia no official regulations are in force.[1] Certain mining companies have organised brigades and are thus able to render assistance should such be required. It is not deemed expedient to keep the apparatus at the bottom of the pit but in a special chamber on the surface which is in telephonic communication with the bottom. At the Rhein Elbe mine at Gelsenkirchen 25 men have been trained in the use of the respiratory apparatus and in the extinction of fires. The men are selected on account of their good physique and sobriety and are well disciplined. Once they have become accustomed to the apparatus they are drilled every three months. The exercises the rescue men go through are somewhat onerous. Many of the men complain of pains in the head but at the Altofts experiments, to which I shall allude presently, there was no complaint of headache; the men whom I saw seemed quite fresh on coming out of the galleries.

In an ordinary way a man requires about 500,000 cubic inches of air per 24 hours. Half a cubic foot or 864 cubic inches of carbonic acid are given off per hour and the same quantity of oxygen is absorbed. A miner should therefore be supplied with not less than one cubic foot of oxygen per hour. In making up a respiratory apparatus to be worn by men in a mine care should be taken, if oxygen is to be the gas supplied, that it is pure and free from nitrogen. Only 4 per cent. of the oxygen taken into the lungs at a particular time can be taken up by the blood; the remainder is exhaled without being utilised; but with this loss of 4 per cent. of oxygen there appears 4 per cent. of carbon dioxide in the expired air. During muscular work the amount of carbonic acid is increased. As this gas tends to accumulate it becomes a source of danger; consequently arrangements have to be made in all forms of apparatus for its removal by passing the expired air through tubes containing caustic potass. Air containing 1 per cent. of CO_2 causes headache, but it is not until 10 per cent. is reached that unconsciousness, according to Haldane, is produced. In all forms of rescue apparatus the oxygen should escape automatically from the cylinder and be carried directly by a tube into the mouth of the wearer or into the interior of his helmet. As the air that has been breathed becomes hotter and the increased temperature itself becomes a source of inconvenience and uneasiness the exhaled air as it circulates in the apparatus passes through a refrigerator. That absorption of the carbonic acid is complete in the apparatus has been demonstrated by the analysis of the contained air by Gréhaut who failed to find any trace of the gas in the apparatus that was used by the German rescue party at Courrières

Hitherto I have said little of what our own country has been doing in this matter. A few years ago it was proposed by the Midland Institute of Mining, Civil, and Mechanical Engineers to establish rescue stations at which men might be trained in the use of live-saving apparatus in colliery explosions. In 1899 Mr. W. E. Garforth of Altofts Colliery, Normanton, constructed an artificial gallery in which experiments with various forms of respiratory apparatus might be tried. Through the kindness and courtesy of Mr. Garforth

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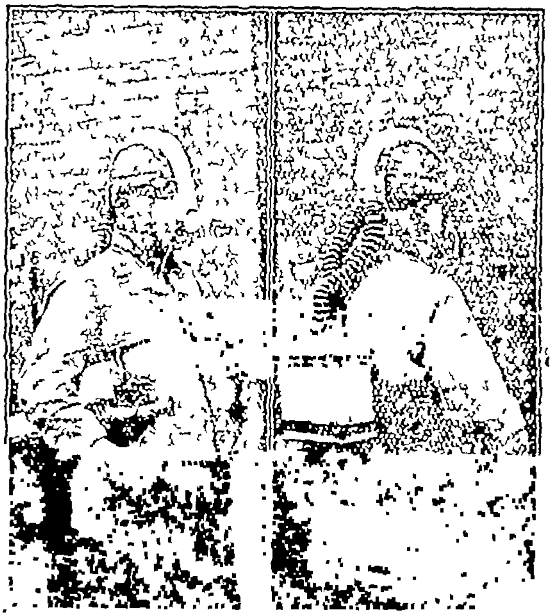
[1] The Colliery Guardian, March 29th, 1907, p 579.

I have been the witness of some of these experiments. The gallery is 150 feet in length and six and a half to seven feet high. It is air-tight and is divided so as to form three parts of a square. It is provided with windows, through which when the atmosphere inside the gallery allows of it the experiments can be watched. The interior is so arranged as to resemble as far as possible portions of a coal mine after a violent explosion. Here and there portions of the roof are supposed to have fallen, the floor is uneven and covered with débris, large pieces of timber have been broken and blown out of their places, and in consequence of the many falls of stone the space between the floor and the roof is so contracted that a man can just crawl through. Into this gallery noxious fumes and smoke from burning sulphur, timber, leather, &c., are pumped and in a few minutes it is impossible to breathe owing to the stifling character of the atmosphere and the pungent and irritating nature of the smoke. Four men, each provided with an electric lamp and wearing Mr. Garforth's respiratory apparatus, all of whom had undergone a training, entered the gallery filled with noxious fumes.

The men work in couples and in the gallery they have to encounter all the physical difficulties likely to be met with in a coalmine after an explosion, including the presence of poisonous gases. They have also to extinguish a fire and bring out of the gallery a dummy dressed as an injured or dead miner and weighing 160 pounds. To accomplish this the rescue party, with the respiratory apparatus fixed on their backs and wearing helmets, have not only themselves to crawl upon their stomach up steep inclines, which in some places rise 4 feet from the floor, strewn with rough stones and pieces of coal, but to pull and push the ambulance with the dummy in it. They have also to crawl and push it through an iron pipe 18 inches in diameter. The men are in the gallery for two and a half hours on an average and during that time they not only walk and crawl a distance of two and threequarter miles but undergo, as indicated, all kinds of severe muscular exertion. In Mr. Garforth's first experiments the men wore a pneumatophore and a Meyer helmet, and the results obtained are published in the Transactions of the Institution of Mining Engineers, Vol. XXII., 1901–02. On that occasion Mr. T. Marshall Nicholson and Dr. Alister Mackenzie of Leeds took records of the pulse-rate and of the temperature of the men before entering the gallery and on leaving it. After a few minutes' exposure their pulse-rate frequently rose from 74 to 150 and the temperature from 97° to 99 2° F., but this may have been partly the result of nervousness. On leaving the gallery the men complained of headache which within half an hour usually disappeared, also of giddiness and nausea which were also transitory. Since that date Mr. Garforth, with the experience gained whilst recovering bodies after colliery explosions at Dukinfield and Altofts, has improved his apparatus, which is known as the "Weg" and which weighs 21 pounds 5 ounces. The "Weg" apparatus consists of two steel cylinders connected with each other and containing compressed oxygen. From these cylinders the oxygen passes through a stop valve to a branch pipe on which a pressure gauge is fixed, so that the wearer of the apparatus can see what pressure of gas he is using and can thus be warned of the necessity of returning to the shaft or a place of safety in the mine on signs of the gas becoming exhausted The supply of oxygen to the wearer is regulated by a "lung governing valve," the theory being that as the inhalation of air by the action of the lungs is intermittent the supply of oxygen should also be the same. It is unnecessary to describe the apparatus fully. The oxygen is conveyed to the mouth of the wearer and thence to the lungs, provision being made for carrying away the expired air from the mouthpiece through a valve downwards, so that there is no chance of the impure or exhaled air returning to the lungs during the next inhalation The expired air subsequently passes through potassium hydrate and loses its carbonic acid, while the nitrogen passes on. Arrangements also exist for cooling the expired air Equipped with the "Weg" apparatus one miner remained in the gallery for three hours and ten minutes, and during that time walked and crawled two and three-quarter miles. In another experiment five explorers wearing the apparatus were in the gallery one hour and ten minutes, during which time, in addition to walking and crawling, they cleared away several stones from 50 to 80 pounds weight each, representing falls of roof, carried the ambulance stretcher over falls, passed through a sheet-iron pipe two feet in diameter, discovered a dummy workman weighing 140 pounds, dragged the dummy in the stretcher, the two together weighing 200 pounds, over falls to the mouth of the gallery, returned again, passing over falls, to the far end of the gallery, a distance of 90 feet, with fire extinguishers and put out a fire. Although one or two of the men appeared to be hot on coming out of the gallery they were otherwise quite fresh.



A front and back view of Mr Garforth's original "Weg" apparatus

Mr. Garforth in this country, Dr. Guglielminetti and others on the continent, including the makers of the Draeger and other types of apparatus, have shown that forms of apparatus have now been invented the utility of which cannot be denied. The experiments at Altofts colliery which I have had the opportunity of seeing have indicated to me that men provided with the apparatus can pass into poisonous and irrespirable atmospheres, remain therein for from two to three hours, and undergo extremely hard exertion without experiencing any bad effects. The apparatus is as invaluable to firemen as it is to coal-miners. There should be no fire brigade in large towns without some such apparatus and the members should have opportunities of being trained in their use. Some of the forms of apparatus that are now in the market are neither cumbersome nor heavy, for as stated I have seen men wearing the apparatus crawl through an 18 inch iron pipe at the Altofts colliery experiments By many mine managers rescue apparatus of all kinds is looked upon with disfavour, and consequently there is little disposition to give them a trial. To the necessity of the helmet portion of the apparatus there are brought forward many objections, one of which is the death of a miner at Courrières, but as the miner in question was known to have been ignorant of the working of the apparatus, had gone into the pit unobserved and without permission, and had not adjusted the helmet properly, his death was not due to a defect in the apparatus, for it was subsequently tested and found to be in perfect order. Come what may the rescue of entombed miners in a pit after a colliery explosion will have to be dealt with, and apparently on such lines as those discussed in this paper. Physiology and mining engineering will have to tackle the problem and there is not the least doubt that it will be solved. Meanwhile the call is for continued experiment and experience and for the establishment of rescue brigades in mining centres where men can be trained. How this training should be carried on and where, also the kind of apparatus that should be adopted, are questions that need not be dealt with in this paper, which will have served its purpose if it arouses interest in the important subject of rescue work in mines.

Note.—Through the kindness of Major Cordier I recently had the opportunity of seeing at the barracks of the Sapeurs-Pompiers, Paris, the rescue appliances worn by the firemen of that city. While these are much of the same design as those described above the apparatus invented by one of the officers, Lieutenant Vanginot, is of special interest. Compressed air is used. When the pressure in the cylinder falls below a certain point a shrill whistle is heard. This is meant to be a warning to the wearer that the supply of air is drawing to a close.

Newcastle-on-Tyne.

TWO CASES OF CEREBRAL ABSCESS.

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THE following two cases of cerebral abscess present special features of interest.

CASE 1.—The patient, a girl, aged 16 years, had always enjoyed good health and there was no history of any ear disease; for the past three years she had worked very hard and had suffered frequently from colds in the head. On Dec. 22nd, 1904, she went to bed in apparently good health but on the following morning she could not get out of bed, and on that and the next day when she attempted to stand she fell down. On the 25th she was seen by Dr. A. B. McKee, who found some rigidity with loss of power in the right arm and leg, and on the evening of that day she had an epileptiform convulsion with clonic spasms of the right arm and leg. On the 26th the right arm was almost completely paralysed and the leg could only be moved with much difficulty; there were no facial paralysis, no aphasia, and no loss of consciousness. The pupils were dilated. On the 29th and 30th drowsiness came on and gradually deepened, and the respirations became shallow. Late on the 31st she was admitted into the Bristol General Hospital and when seen on Jan. 1st was in the following condition. She lay on her back in a semi-comatose state, only responding when spoken to loudly. She opened the left eye a little way, the right not at all. The eyes deviated slightly to the left. The left pupil was larger than the right, both being moderately dilated, and responding feebly to light; this response was slower on the left side. The right side of the face in all parts and the right arm and leg were paralysed and flaccid. Sensation so far as could be tested by a pin-prick was everywhere unaffected. The superficial reflexes were absent on the right side but present on the left; the deep reflexes were all exaggerated on the right side. There was no optic neuritis, but the edge of the left optic disc was hazy and the veins were full. There was constipation and incontinence of urine, which contained a trace of albumin, no sugar, and no casts. The pulse was 76 and regular, the respirations were 20, and occasionally of the Cheyne-Stokes type, and the temperature was 98° F. in the right axilla and 97° in the left. The tongue was thickly furred. The thoracic and abdominal organs were healthy. The ears were normal and no nasal disease was discovered. She was able to swallow liquid but not easily. A spinal puncture was made and a little cerebro-spinal fluid was obtained, which was normal in character and proved sterile. On the 2nd the condition was unaltered, except that the drowsiness was greater, and on the 3rd this had passed into profound coma. The abdomen became retracted with a marked tache cérébrale. There was no recurrence of the convulsion of Dec. 25th. The temperature remained at from 97° to 98° until the 3rd, when it rose to 100° and stayed at that point until death occurred. The pulse was 84 on the 2nd, 96 on the 3rd, the patient dying on the morning of the 4th from failure of respiration. At the post-mortem examination the only evidence of disease was in the brain; this weighed 2 pounds 10 ounces. On removing the dura mater both hemispheres were found to be bulged and their convolutions to be flattened, the left being especially so, and just behind the upper end of the fissure of Rolando, close to the longitudinal sinus, was an area of local bulging, soft and fluctuating, over which the pia-arachnoid was thickened, with some soft adhesions to the dura mater. This swelling led into an abscess cavity of the size of a Tangerine orange, which was full of grumous, greenish pus and broken-down cerebral tissue. The abscess had a well-defined, firm, membranous wall. It was situated in the centrum ovale, in the posterior part of the parietal lobe, and pressed upon the internal capsule below it. Beyond a moderate distension of the lateral ventricles the other parts of the cerebrum, the cerebellum, the pons, the membranes, and the vessels were healthy. Both internal and middle ears, the mastoids, the ethmoidal and frontal sinuses, and the throat and nares were healthy, and after a careful search the source of infection remained undetermined.

CASE 2.—The patient was a female, aged 24 years. With the exception of an attack of influenza two years previously she had always enjoyed good health. Her mental condition was very obscured on admission to the hospital, so that it was doubtful how far her statements could be trusted, but she gave a vague account of a discharge of matter from the left nostril at some previous time; this was not confirmed by her relatives. She had never had any ear trouble. 14 days before admission the patient was in her usual health, and whilst wiping some crockery she was suddenly taken with severe pain over the left eye, followed soon by swelling of the left side of the face. On the next day the pain was worse and she vomited several times. There was then an intermission of three days, after which the pain returned, and since then she had been confined to bed with intense left frontal headache, photophobia, repeated attacks of vomiting irrespectively of food, occasional diplopia, flushing of the face, stiffness of the neck and pains along the spine, with a thick feeling in the throat, and latterly incontinence of urine. On admission to hospital on Oct. 9th, 1905, she looked heavy and dull and her face was flushed. She was drowsy and apathetic and took no notice of her surroundings. The pulse was 62 and regular, the respirations were 20, and the temperature was 97·4° F. The tongue was furred. She vomited three times on the day after admission, after which the vomiting ceased. There were intense frontal headache and extreme tenderness over the left frontal region and over the left orbital plate. Mr. J. L. Firth kindly made a nasal examination, so far as the patient's condition would allow it, but found no other evidence of disease than the presence of some dried flakes of pus on the mucous membrane of the left nostril. There were no paralysis of the face or limbs and no affection of sensation, neither was there tremor of either limb. There were slight retraction of the head and stiffness at the back of the neck, with tenderness over the upper part of the spine. There was marked photophobia. The pupils were small; the left was larger than the right and both reacted to light and to accommodation. There was commencing optic neuritis most marked on the left side. No nystagmus, no deviation of the eyeballs, and no paralysis of oculo-motor nerves could be made out, although the patient occasionally said she saw double. The knee-jerks and ankle-jerks were exaggerated but equal on both sides. The plantar reflex was doubtful (? extensor). There was some rigidity about the knee and elbow-joints. Except for feebleness of the breath-sounds the thoracic and abdominal organs were normal. The urine (specific gravity 1020) contained a trace of albumin but no sugar or deposit. The abdomen was not retracted. A lumbar puncture gave a negative result. The ears were healthy and no pus could be detected in the nares.

On the next day, after a restless night with much tossing from side to side, the patient was more heavy and drowsy. The temperature was 97·4° and the pulse was 60. She lay on her back with her face turned to the left, took no notice of her surroundings, but answered when spoken to loudly. There was constipation but incontinence of urine. There were no fresh symptoms. On the 11th the drowsiness had increased still further. The pulse was 60 and the respirations were 16. The arms were rigid on attempted movement. On the evening of this day she had several attacks of complete unconsciousness for from 10 to 12 minutes, with stertorous breathing. The arms became rigid, and as each attack passed off the patient repeatedly raised her left arm, and rubbed the tip of her nose. During these attacks the pupils were fixed, the right contracting and the left dilating. On return of consciousness the right pupil dilated until they were both the same size. The eyeballs moved slowly to the left from the middle line. The temperature rose after these attacks to 98·2°. She passed into deep coma and died early on Oct. 12th. In the state of mental hebetude in which the patient remained after admission to hospital no accurate observations as to smell and taste could be made. She was not deaf.

Post mortem, except for some hypostatic congestion of the lungs and congestion of the kidneys, the thoracic and abdominal organs were normal. On opening the skull the dura mater was normal; over the vertex of the brain the pia-arachnoid was dry, the convolutions were flattened, and the sulci were partly obliterated; this was especially the case on the left hemisphere. The longitudinal sinus contained no clot. At the base of the brain there was suppurative meningitis, there being a thin layer of pus on the under surface of the cerebellum, around the medulla, and within the circle of Willis, whilst over portions of the basal surface a thin layer of lymph was seen. The left frontal lobe bulged somewhat and on incising it an abscess, of the size of a small hen's egg, containing bright yellow pus, and having a wall only moderately firm, was found in its anterior part over the orbital plate and about three-quarters of an inch from the anterior extremity of the lobe. The left lateral sinus contained firm ante-mortem clot; the right was empty. There was a small amount of bright yellow pus in the left frontal sinus; the remaining sinuses contained no pus. All other parts of the brain were healthy and both internal and middle ears were normal. A bacteriological examination of the pus was made, but the record of it has unfortunately been mislaid.

In the first of these cases there were no means of arriving at the exact position of the lesion giving rise to hemiplegia nor of ascertaining its nature. The first onset of symptoms was abrupt, taking place during one night, and the hemiplegia became complete in three days, and the whole duration of illness was 12 days. In the absence of heart and of kidney disease a vascular lesion, such as embolism or hæmorrhage, was improbable at the patient's age. The characteristic signs of intracranial abscess were conspicuously absent and none of the usual causes of this affection were present. Looking back upon the history of frequent colds in the head during the preceding three years, it seems possible that infection might have occurred through the nose, but there was no evidence of any such source of infection post mortem. The most probable diagnosis during the illness seemed to be that of tumour, which had remained latent, and then suddenly given rise to symptoms, possibly through the intermediary of hæmorrhage into its substance, such as sometimes occurs in a glioma. Against this hypothesis, however, was the absence of optic neuritis. As there were no localising indications further than that the lesion, whatever its nature, was on the left side of the brain, no attempt at relief by operation was feasible.

In the second case, on the other hand, the diagnosis of an intracranial abscess could be readily made from the presence of the characteristic signs, and the mental symptoms, site of pain and local tenderness, with evidence of a source of infection in the nose, pointed further to the localisation of the abscess in the left frontal lobe. But it was also considered on duly weighing the other signs present in the case, and also from the general condition of the patient, that she was further suffering from a complicating meningitis which precluded any chance of successful interference. In fact, it was obviously too late when she came into the hospital to do anything for her relief.

In conclusion, the first case is a good example of that form of cerebral abscess, chronic in character, which remains latent until the end, and the second emphasises the importance of dealing with the acute form of abscess at the earliest possible moment before necessarily fatal complications have arisen.

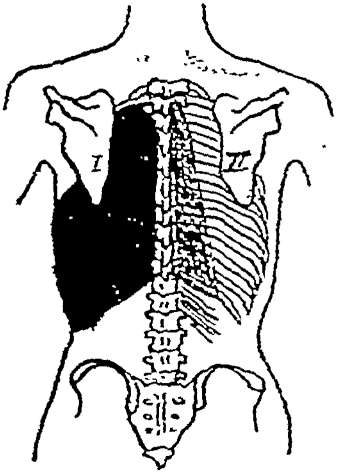
Bristol.

GROCCO'S TRIANGLE: PHYSICAL AND ANATOMICAL EXPLANATION.

BY F. W. FORBES-ROSS, M.D. EDIN., F.R.C.S. ENG.

IN pleurisy, with effusion into either pleural cavity, there has been described, particularly by Dr. W. Ewart among others in this country, as a phenomenon accompanying that affection an area of comparative (or relative) dulness along the spine on the side opposite to the effusion, having the shape of an elongated triangle, bearing a definite relative height to the height of the effusion in the affected side. This is especially the case if the patient is examined when in the sitting or standing posture. Although the upper outline of dulness in the affected side is that of a dome, with its highest point in the scapular line (posteriorly), falling away in either direction towards the spinal and axillary margins, yet the height of Grocco's triangle is always that of the height of the dome at its highest point. The *base* of Grocco's triangle being at the twelfth rib or thereabout is for the most part invariable in its lateral extension, varying very slightly in relation to the height of the triangle and of the effusion into the diseased side of the chest; in other words, not as much as would preclude an anatomical explanation of the phenomenon, inasmuch as a small effusion cannot dampen resonance of the opposite side so easily as a large effusion. The shape of the upper border of the effusion on the diseased side is also anatomically interesting. The height of the dome at the highest point is due to the shape of the chest and the convex lung surface at the area where it is highest —*that is, a thin* layer of fluid tends to creep up by capillary attraction. The fall towards the spine is due to the fact that the column of fluid in the corner formed by the vertebral column and ribs behind and the lung and posterior mediastinal wall in front and on the median line tends to sag or drop owing to its relative thickness. It is this thick column of fluid which acts as conductor *and transmitter of resonance-dampening* across the middle line. This sagging does not prevent the fluid conduction (or rather the *deadening* of resonance by damping-down of the resonance of the sound side) by means of the bones and muscular structures *acting as a solid medium* in consonance with the fluid on the diseased side to the full height of the dome on the diseased side. The result is that the height of Grocco's triangle is physically *consonant* with that of the height of the dome on the *diseased* side. (See *Fig.* 1.) The column already described is thicker below than above, *owing* to the fact that the costo-vertebral recess within the thorax is deeper below and gradually shallows as it ascends and so thins off the aforesaid column of fluid. For the same reason the very existence of Grocco's triangle becomes explainable and tolerably certain from a physical and anatomical basis alone. The relative dulness of Grocco's triangle *is due to* the underlying sound lung of the unaffected side imparting its resonance to and partially removing the bone- and muscle-conducted dampening of resonance of the fluid on the affected side.

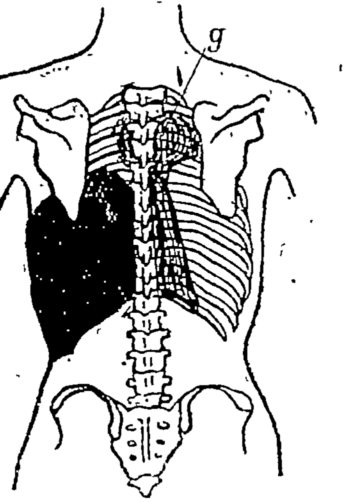
FIG. 1.



Black area is effusion dulness (I) and shaded area (II) Grocco's triangle.

Why is Grocco's area a triangle? Because the paravertebral groove or sulcus outside the chest is *widest* and *deepest below* and *narrows* and *shallows as it ascends* towards the seventh cervical spine, and the posterior mediastinum inside the chest is *widest* at its *upper part*, where it joins the superior mediastinum. The sound lung is therefore able to impart its resonance more and more to the *sound side* and nearer to the vertebral column, as the dull area ascends, owing to there being less and less muscular tissues *to* conduct the fluid-dampening of resonance passing from the diseased side across the *middle* line. Is there ever an exception to this? Yes, when in incipient cases of tuberculosis of lung there are enlarged bronchial glands in the posterior mediastinum and a pleural effusion occurs on the left side of the chest, Grocco's triangle on the right will suddenly spread at the upper part till it reaches the inner border *of the* scapula on the right side and is lost under the right scapula. This proves the contention that Grocco's triangle is due to the conduction by solid tissues of the fluid-dampening of resonance from the diseased to the sound side. In other words, from the sternum right round the diseased side to the spinal column and across the middle line is one continuous "resonance-dampening" block. It may be mentioned in passing that enlarged glands in the (upper) posterior mediastinum lie mostly to the right of the middle line in the interscapular space. (See Fig. 2.)

FIG. 2.

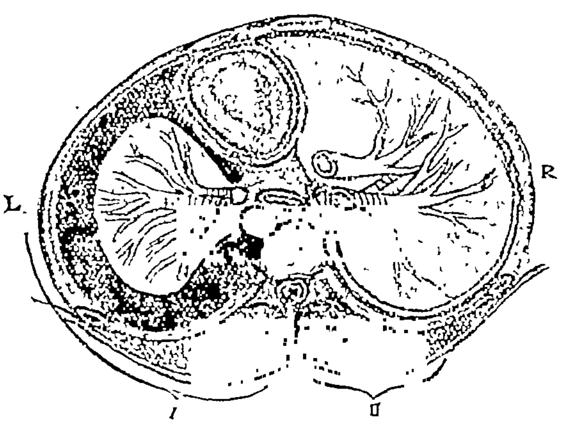


Grocco's triangle merging above into (g) gland dulness.

Grocco's triangle is not invariably present in all fluid effusions into the chest. Why is this? In some empyemata, such as are loculated and in demarcated pleural abscesses and effusions, the fluid media do not extend to the middle line posteriorly owing to adhesion of the pleural surfaces in that situation. There can in these cases be *no* trans-spinal conduction of resonance dampening. Even in some of these cases, however, the chest wall will conduct "resonance-dampening" to the spinal column and superincumbent muscles in a very slight degree. When an abscess or large empyema *extends to the spinal column*, then Grocco's triangle *is present*, with the same physical and anatomical signs and limitations, altered, however, by enlarged glands if present on the right side as before described. The above goes far to prove the anatomical causation of Grocco's area. The following rough drawings (diagrammatic) of cross sections of the chest will explain.

Fig. 3, representing a cross section at the mid part of the thorax (cardiac apex) shows a *wide* and *deep paravertebral grove* containing the massive spinalis and longissimus dorsi muscles, relatively *larger* bony vertebræ, projecting spinous processes, and adjacent ribs. The mass of hard and soft tissues from side to side and from before backwards is greatest at this point, as well as the mass and cubic capacity of the "costo-vertebral cavum" within the thorax. It can at once be seen that the combination of fluid and solid tissues will exert a considerable "resonance-dampening" influence across the middle line on to the sound side; hence the *base* of Grocco's triangle is *wider here than at any point above* the line of section, as higher up all the factors tend to diminish.

FIG. 3.

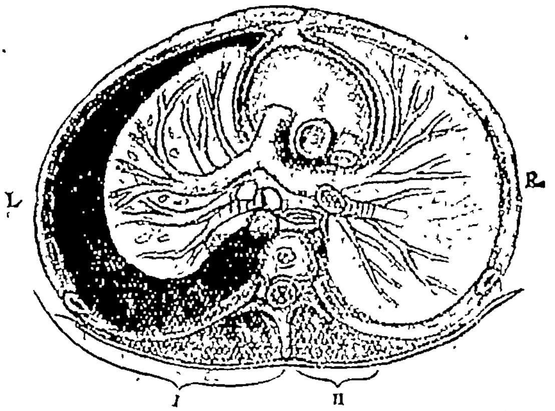


Section through apex of heart. I, Area of effusion dulness. II, Grocco's triangle.

Fundamentally the foregoing is correct; but the eleventh and twelfth ribs (and to a less degree the tenth), owing to their distal ends being practically free, do not vibrate in consonance with the rest of the chest wall and so tend to still further widen the dull *base* of Grocco's triangle outwards. This impairment, to a less degree, will be noticed on both sides in normal chests (not shown in Figs. 1 and 2).

Fig. 4 shows a section just at or above the level of the base of the heart. The paravertebral sulcus is *shallow*, the vertebræ are *smaller*, their spinous processes slant downwards, the muscular tissue is less and more spread out laterally, thus making the posterior chest wall more homogeneous as regards its lateral thickness; the costo-vertebral cavum within the thorax does not hold so much fluid as that below, therefore the resonance-dampening area approaches nearer the middle line, and so Grocco's triangle tends to *narrow to an apex* as it ascends the spinal column. It can easily be understood, however, that the larger the effusion into the diseased side the greater the physical "resonance-dampening" on the sound side and *vice versâ*. If also there be enlarged glands on the right side of the upper part of the posterior mediastinum then Grocco's area will spread out at the upper part after temporarily narrowing (see Fig. 2).

FIG. 4.



Section through thorax at base of heart. I, Area of effusion dulness. II, Tapering apex of Grocco's triangle.

As a surgeon my apologies are due to the medical section of the profession for presuming to explain physical signs in the chest, but my excuse and plea must be that my surgical interest in empyemata and other collections of fluid in the chest has seduced me from a befitting reticence. I offer the above explanation for what it is worth from a purely anatomical and physical standpoint clinically verified. Grocco's triangle accompanying pleural effusion is a physical necessity of the anatomical conformation of the posterior chest-wall.

Harley-street, W.

THE LOSS OF THE TENDO ACHILLIS REFLEX AND ITS DIAGNOSTIC VALUE IN "ALCOHOLIC" FAILURE OF THE HEART.

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A CLINICAL form of cardiac disease is not infrequently met with, at least in South Lancashire, which is due to the drinking of large quantities of beer or spirits. The disease is a form of cardiac muscle failure and has been termed alcoholic dilatation of the heart and alcoholic heart failure. It has been very thoroughly and carefully described by Dr. Graham Steell[1] and by other writers in England and on the continent.

I do not propose in this article to consider the exact cause of the affection, whether it is due to the alcohol of beer and spirits, or to some impurity, or, in certain cases, to arsenic, which was found by Dr. E. S. Reynolds a few years ago in the beer sold in Manchester and proved by him to be the cause of an epidemic of peripheral neuritis. I wish in this note to refer simply to one sign which I believe to be of some value in the diagnosis of alcoholic failure of the heart from other forms of cardiac muscle failure. In cases in which shortness of breath, œdema, and other signs of cardiac failure are present the diagnosis of alcoholic heart failure is based chiefly on (1) the history and evidences of alcoholism; (2) on the absence of indications of valvular cardiac disease; (3) on the absence of nephritis; and (4) on the absence of indications of other known causes of cardiac muscle failure. Several peculiarities in the symptoms have been pointed out by Dr. Steell. In the diagnosis of alcoholic heart failure with secondary albuminuria from chronic nephritis with secondary cardiac failure I would emphasise the importance of ophthalmoscopic examination, since the detection of albuminuric retinitis would indicate the latter diagnosis. (To the writings of Dr. Steell the reader may be referred for an account of the diagnosis of alcoholic heart failure.)

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[1] Medical Chronicle, April, 1893.

A definite history of alcoholic excess is often difficult to obtain in private patients and especially in females, and hence other evidences of alcoholism are of value in the diagnosis. The knee-jerks are lost in some cases of alcoholic heart failure, but I soon found that the proportion of such cases was too small for the sign to be of any diagnostic value. Loss of the tendo Achillis reflex is one of the first signs of the injurious action of alcoholic beverages on the peripheral nervous system and this reflex is often lost long before the knee-jerk. As it appeared probable that in this sign we should have an indication of diagnostic value I have carefully examined the condition of the tendo Achillis jerks in 21 cases of alcoholic heart failure and in many cases of heart disease which have not been caused by alcoholism. In making the examination I have used a *heavy* percussion hammer. The following are the results which I have obtained:—

21 Cases of Alcoholic Heart Failure.

	Tendo Achillis jerks.		Knee-jerks.	
18 cases with well-marked symptoms ...	Both lost ...	16 cases	Present... ...	10 cases.
			Lost	6 ,,
	One lost and one present	2 ,,	One present and one lost	1 ,,
			Both present	1 case.
3 cases with slight symptoms	Both present		Both present.	

In these cases paralysis was absent and there were no signs of neuritis beyond loss of reflexes, pains in the legs, and muscular tenderness. The two latter symptoms were often very slight or absent.

100 Cases of Cardiac Disease not due to Alcoholism (Valvular diseases, and dilatation or muscle failure not due to alcoholism).

	Tendo Achillis jerks.	
100 cases	Present	93 cases.
	Lost	2 ,,

In the two cases of non alcoholic heart disease in which the tendo Achillis jerks were lost the knee-jerks were absent and there was the Argyll-Robertson pupil. Both were cases of aortic valvular disease and there can be little doubt that the loss of the tendo Achillis jerks and knee-jerks and the Argyll-Robertson pupils were all due to commencing tabes dorsalis.

These observations demonstrate, therefore, that in cases of heart disease not due to alcoholism the tendo Achillis jerks were present in all cases except two, and in these two cases the loss of these reflexes was almost certainly due to early tabes. On the other hand, in *alcoholic* heart failure the tendo Achillis jerks were lost on both sides in 16 out of 21 cases, on one side in two other cases; they were both present in only three cases. In these three cases the symptoms were slight and the diagnosis not quite certain. Hence we may say that the tendo Achillis jerks are present in non-alcoholic heart disease unless there is some nervous complication, but are usually absent in alcoholic heart failure if the symptoms are well marked and if œdema and dyspnœa are both present (i.e., absent in alcoholic heart failure on both sides in 76 per cent. of cases, on one or both sides in 85 per cent.).

There are, of course, individuals who can take very large quantities of alcohol without either cardiac failure or loss of the tendo Achillis jerk occurring. Hence it is the absence of this reflex which is of chief value in diagnosis as one indication of alcoholic excess.

The loss of the tendo Achillis jerks in alcoholic heart failure is probably due to very early neuritis. It is not due to the œdema of the leg, since these reflexes may be obtained in non-alcoholic cases when there is marked œdema.

Probably the tendo Achillis reflex is always present in health. Under the age of 50 years it is generally admitted that the reflex is always present in the normal condition, but it was stated a few years ago that after the age of 50 years it was sometimes absent. Some observers have found, however, that both over and under 50 years of age the tendo Achillis jerk is always present in health. This has been my own experience. But in order to obtain evidence on this point I have recently examined the tendo Achillis jerk in 100 individuals over the age of 50 years who were either in good health or not suffering from any affection of the nervous system. The reflexes were present in all of the 100 cases.

It is to be remembered that the tendo Achillis jerk is often lost in diabetes mellitus[2] and after diphtheria. In both of these conditions cardiac failure may occur, but the history in the latter affection and the condition of the urine in the former are diagnostic. In lesions of the lower part of the spinal cord and of the cauda equina this reflex may disappear on both sides and in severe sciatica on one side (the side of the pain).

From the facts just recorded I think we may conclude that under certain conditions the tendo Achillis reflex may be of service in the differential diagnosis of alcoholic heart failure, but we should first exclude diabetes mellitus, diphtheria, and tabes as causes of the loss of the tendo Achillis jerks. Providing there is no glycosuria, no evidence of a recent attack of diphtheria, no sign of lesion of the spinal cord or cauda equina, and providing the pupils react to light and that there are no lightning pains or other signs of tabes dorsalis, then the loss of the tendo Achillis jerk is of value in diagnosis as a confirmatory sign that the alcoholic beverages taken have had an injurious action on the system—i.e., that they have produced one of the first signs of their toxic action on the peripheral nerves. (It is interesting to note that there were no signs of peripheral neuritis in any of the 21 cases examined beyond the loss of reflexes and in some cases aching pains and tenderness in the legs.)

The Argyll-Robertson pupil is practically never produced by alcoholism, but it is found in most cases of tabes. Hence the pupils should always be tested before attaching importance to the loss of the tendo Achillis jerk.

In a case of heart failure, in which, from the symptoms and signs, alcoholism appears to be a possible cause, the *loss* of the tendo Achillis reflex would be strongly in favour of this view, if we can exclude the other affection, just mentioned, which produces loss of this reflex. If the symptoms of cardiac failure are well marked the *presence* of the tendo Achillis jerk would be a point against alcoholic heart failure. But if the symptoms of heart failure were slight then the presence of the tendo Achillis jerk would be of little diagnostic value.

Manchester.

A CASE OF SPLENIC ABSCESS.

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ABSCESS of the spleen seems to be so rare in this country that the following instance may prove of interest.

On Nov. 17th, 1906, I was asked by Mr. S. G. Vinter of Torpoint to see a married woman, aged 23 years. She had been delivered with forceps of her first child, a boy, after an eight hours' labour, on Oct. 14th, 1906. The perineum was not torn, but the placenta being firmly adherent was removed piecemeal, leaving a rough, shreddy surface. A lysol douche was given immediately afterwards and on each succeeding day. On the fifth evening post partum the temperature ran up to 104·4° F., followed on the thirteenth evening by two severe rigors, recurring the two succeeding days, while on the seventeenth morning the temperature fell to 98° and the pulse to 84, which was accompanied by a profound rigor, lasting half an hour. The temperature again rose to 104·6° and oscillated violently.

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[2] R. T. Williamson: Review of Neurology and Psychiatry, October, 1903.

On the evening of the twenty-second day 20 cubic centimetres of antistreptococcic serum were given per rectum, repeated next day, and again on the twenty-seventh, thirtieth, and thirty-fourth to thirty-ninth days. During this time the pulse-rate varied between 100 and 130 per minute with profuse sweating and occasional vomiting. On the thirty-fifth evening following delivery I found the abdomen distended, tympanitic, and tender, more especially in the left hypochondrium, where a hard lump could be felt, moving slightly on respiration and exhibiting the characteristic notch on its anterior border. Being uncertain as to the presence of pus in what was obviously the enlarged spleen and also whether that organ was adherent to the anterior parietes or not I advised the continuance of the antistreptococcic (polyvalent) serum. This was given daily until the forty-first day, when I saw her again with Mr. Vinter and his partner, Mr. R. J. Percy Thomas. The spleen had increased in size; it no longer moved on respiration, but still retained its notched border and the parietes superjacent were slightly reddened and œdematous.

Under chloroform a three-inch vertical incision was made along the centre of the left rectus sheath; the areolar tissue was found to be œdematous and on pushing a pair of sinus forceps through the peritoneum a quantity of horribly foul-smelling pus of a dirty yellow colour, mixed with greyish-purple sloughs of splenic tissue, escaped. A large rubber drain-tube was passed into the cavity of the spleen and stitched to the skin incision. The temperature rapidly fell and in 48 hours was normal and remained so during convalescence, while the pulse-rate soon reached 84. The number and bulk of sloughs that came away were extraordinary, but very little bleeding occurred. The cavity closed at the end of three weeks.

The interesting features of this case seem to be: (1) the spleen was the only organ or part affected; (2) though swollen it never lost its characteristic outline, but ceased to move on respiration; and (3) the large amount of splenic tissue lost in the form of sloughs and yet there are now (May, 1907) no apparent blood changes. I regret that no microscopical or bacteriological examination of the discharge was made, but the stench was so overpowering that a specimen would have nauseated even the most hardened pathologist.

With regard to the pathology of this case it is probable that septic thrombosis of the veins at the placental site took place and from there an embolus was carried through the heart and pulmonary circulation into a branch of the splenic [illegible]. As throwing a light on the reason why the spleen became the "seat of election" for infective embolism and infarction, a history was given that three weeks previously to the birth of her boy the patient fell from a table, striking the left side of her chest so violently across the back of a Windsor chair that the latter was broken by the force of her impact. It is therefore probable that a hæmatoma was caused in or around the spleen which subsequently became infected in the manner above outlined.[1] The patient has never resided abroad nor suffered from enteric or other fever, nor had she valvular disease of the heart. Abscess of the spleen occurs in the tropics during malaria or yellow fever, also in the course of enteric fever, septicæmia, pyæmia, and particularly in ulcerative endocarditis.

The following references in recent medical literature are appended. 1. Nolan,[2] in describing a case of abscess of the spleen, states that only five successful results are recorded after operation. His case is very similar to the one I have just described. A woman, aged 25 years, six weeks after confinement became ill and feverish. Enteric fever was suspected. Sudden acute pain in the left side was followed by dyspnœa and a pleuritic effusion was found, together with a greatly enlarged but *not* tender spleen. A vertical incision along the left linea semilunaris was made; a cavity was reached from which about a litre of dull brown pus, with a faintly sweet smell, escaped. The peritoneal cavity was not opened. The wound was plugged with gauze and uninterrupted recovery followed. It is doubtful whether this patient suffered from enteric fever or whether the abscess followed puerperal infection; in either case an infective embolus would be the proximate cause. This paper is referred to in the *British Medical Journal Epitome*, April 14th, 1894, para. 295, and also quoted by Mayo Robson in the *Medical Annual* for 1895, p. 453. 2. Black.[3] The patient was a sailor, aged 21 years, who two years previously had contracted yellow fever; the tumour was incised yielding three and a half pints of bluish yellow pus; the cavity was plugged and healed by granulation after secondary suture with complete recovery. 3. Mayo Robson in the *Medical Annual* for 1904, p. 651, refers to a case reported by Dr. G. Riolo in the *Riforma Medica* of April 24th, 1902, of a splenic abscess complicating malaria successfully treated by incision and drainage. 3, 4, and 5. Mr. Robson also refers to a case under his own care and cites a paper by Dr. A. L. Staveley in the *Annals of Surgery* for June, 1903, on Splenic Infection, reporting two successful operations. 6. Harrington[4] reports two cases both following typhoid fever. 7. Moynihan[5] refers to seven cases of splenic abscess treated by operation up to 1900 and three cases recorded since by Murphy, Karewski, and Eberhart.

With regard to the treatment it appears to me better to wait until adhesions to the anterior parietes have formed and then perform splenotomy with drainage rather than traverse the unguarded general peritoneal cavity to undertake splenectomy, an operation sufficiently severe in an uninfected patient with its amount of shock and risks of hæmorrhage, immediate and remote.

Plymouth.

RICE AND BERI-BERI:

PRELIMINARY REPORT ON AN EXPERIMENT CONDUCTED AT THE KUALA LUMPUR LUNATIC ASYLUM.

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DURING the year 1905 an epidemic of beri-beri broke out in the Kuala Lumpur Lunatic Asylum. Commencing in February, it reached its height in July and August, declining somewhat towards the end of December. Out of 219 lunatics treated in the asylum during the year 94 persons were affected, of whom 27 succumbed to the disease. The chief constituent of the rations supplied to the inmates of the asylum was uncured (Siamese) rice, and in view of the fact pointed out by Dr. Braddon that beri-beri occurs chiefly amongst communities with whom such rice is the staple article of diet it was decided, with the sanction of the Government, to place half the lunatics on cured (Indian) rice. The Government readily gave its consent and the experiment was commenced on Dec. 5th, 1905. The result up to Dec. 31st, 1906 (i.e., one year and 26 days) was that 34 out of 120 persons fed on uncured rice suffered from beri-beri and 18 died, whilst among 123 patients dieted on cured rice there were no deaths from beri-beri and only two cases, both of whom were suffering from the disease on their admission to the asylum.

1. By uncured rice is meant the ordinary white rice, sold in the Federated Malay States as Rangoon or Siam rice, which is eaten by all classes except Indians and Malays. This rice after being harvested is taken to the mills, where it is husked and cleaned before being sold to the rice merchants. Cured rice is brownish in colour and forms the staple of diet of Indians and Ceylonese. The great difference between this rice and the uncured variety is that the former is boiled and dried before being milled. The Malays keep their rice stored unhusked and pound and winnow it when they wish to cook it. A. White rice is stored unboiled after being husked. B. Cured rice is stored after being boiled and then husked. C. Native Malay rice is stored unhusked. Except for the difference in the rice the two parties—those on cured and those on uncured rice—received the same kind and the same amount of rations. Excepting the rice the food-stuffs for all patients were prepared together in the same kitchen and cooked in the same cooking pots.

2. The lunatics are housed in two exactly similar buildings on opposite sides of a quadrangle surrounded by a high wall. On Dec. 5th all the lunatics at that time in the hospital were drawn up in the dining shed and numbered off from the left. The odd numbers were subsequently domiciled in the ward on the east side of the courtyard and no alteration was made in their diet, they were still supplied with the same

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[1] Cf. Moynihan's Abdominal Operations, p. 646.

[2] Weekblad van het Nederlandsch Tijdschrift voor Geneeskunde, March 10th, 1894.

[3] Brit. Med. Jour. Oct. 17th, 1896, p. 1116.

[4] THE LANCET, Nov. 11th, 1905, p. 1393.

[5] Abdominal Operations, p. 646.

uncured rice (Siamese) as in 1905. The even numbers were quartered in the ward on the west of the quadrangle and received the same rations as the occupants of the other ward, with the exception that they were supplied with cured (Indian) rice instead of the uncured Siamese variety. The following is the ordinary diet scale of the lunatic asylum: fresh meat, four ounces four times a week; fresh fish, 5½ ounces two times a week; salt fish, 5½ ounces once a week; vegetables, eight ounces daily; curry stuffs, 1½ ounces daily; and cocoanut oil, ¼ of an ounce daily. Uncooked rice: Siam, 28 ounces to be supplied as per sample for uncured rice ward; Bengal, 28 ounces to be supplied as per sample for cured rice ward. At the commencement of the experiment all patients showing unmistakeable symptoms of beri-beri were removed to the district hospital, which is two miles distant from the asylum. On Dec. 5th there were 59 lunatics in the asylum; of these 29 were put on cured rice and 30 on Siamese rice. The next patient admitted to the asylum was admitted to the Bengal rice ward, and the one admitted after him to the uncured rice ward, the next to cured, and so on alternately to the end of the year.

3. The knee-jerks of all patients in the asylum on Dec. 5th, 1905, were noted on that date and of those admitted subsequently on the dates of their admission. The presence or absence of œdema was noted at the same time.

Patients admitted to Siamese (Uncured) Rice Ward.

Knee-jerks average	... ...	35	(21 developed beri-beri).
„ absent ...	... ...	11	(2 „ „).
„ impaired	... ...	7	(1 „ „).
„ increased +	...	10	(5 „ „).
„ „	+ + ...	4	(3 „ „).
„ „	+ + +	2	(2 „ „).

22 patients in the Siamese rice ward had some œdema on admission.

Patients admitted to Bengal (Cured) Rice Ward.

Knee-jerks average	79
„ absent	25*
„ impaired	2
„ increased	5
„ „	6
„ „	3

* Two had beri-beri on admission.

32 patients in the Bengal rice ward had some œdema on admission.

4. By June 20th many cases of beri-beri had occurred amongst the patients in the east ward who were eating uncured rice, whereas no cases had occurred in the west ward, the inmates of which were dieted on cured (Indian) rice.

5. In view of the theory so strongly advocated by Sir Patrick Manson that beri-beri is a place disease, it was thought possible that the east ward was infected. Therefore on June 20th the patients were transposed, those on uncured rice being moved to the west ward and those on cured (Indian) rice transferred to the east. From June 20th to Dec. 31st no beri-beri developed amongst the patients on cured rice although they were living in a ward where beri-beri had been rife amongst the lunatics who were fed on uncured (Siamese) rice.

6. From Nov. 3rd, 1905, until April 11th, 1906, all persons showing symptoms of beri-beri were transferred to the district hospital, as it was considered that this would be beneficial to those suffering from this disease and also might possibly prevent the spread of it within the institution. In all 13 persons suffering from beri-beri were sent to the district hospital of whom nine died.

7. In April, as no patients on cured rice had developed beri-beri, it was thought that it might benefit those already suffering from the disease to withdraw them from the uncured rice diet and place them on the cured or Indian variety. Between April 11th and Dec. 31st ten cases of beri-beri were transferred to the ward occupied by patients on cured (Indian) rice and were supplied with that rice instead of the uncured variety which they had been taking when they developed the disease. All these ten patients recovered.

It is worthy of note that although patients actually suffering from beri-beri were put to live amongst the lunatics fed on cured rice none of the latter developed the disease. This, as far as it goes, is opposed to the theory of Dr. C. W. Daniels that beri-beri is a parasite disease, probably protozoal, conveyed by the agency of bugs or lice. Neither does the above result conform to Dr. Hamilton Wright's theory that beri-beri is an infectious disease communicated from patient to patient by means of the excreta. In this connexion it should be mentioned that in September, 1905, it was noticed that the lunatic asylum was infested with bugs, and at the suggestion of Dr. Daniels some of these were collected and put on monkeys, mice, and guinea-pigs. Lice from the head of a beri-beri patient were used in the same way. Later the bacteriologist made an emulsion of some bugs taken from the lunatic asylum and injected it beneath the skin of an orang-outang. None of the animals showed any signs of beri-beri. The bugs in the asylum were to a great extent got rid of before the commencement of 1906 by means of hot water, sun, perchloride of mercury, and tuba root, but they still are, and, I am told, always have been, present in the old building.

8. With regard to the general management of the lunatics, the two batches of patients are both fed in the same shed but at different times and at different tables, those patients on cured rice diet commencing their meal when the patients on Siamese rice have finished. The two batches of patients are only separated at night and when eating their meals; at other times they associate together in the courtyard and are employed outside the asylum in working parties. Those patients who were sane enough and strong enough physically to be employed in working outside the asylum, in the hospital grounds, or in the Guinea grass field opposite the asylum enjoyed no special immunity to beri-beri but suffered equally with those patients not so employed. 12 out of 34 persons affected with beri-beri belonged to the outdoor working party.

9. The uncured (Siamese) rice supplied to the asylum was of excellent quality (No. 1) and much better than that to which persons of the class from which the patients are drawn are accustomed outside the asylum. No mouldy or stale rice was given. The cured or Indian rice was of No. 1 quality. It was not Province, Siam, or Rangoon rice cured in Penang, but the small, round-grained Indian rice cured in India. The rice was cooked in the usual Eastern manner.

The following is the procedure. It is first washed with cold water in galvanised-iron buckets. It is then thrown into a shallow iron pan or kwali half full of hot water, which is placed over a wood fire. In about 20 minutes the rice has swelled and has taken up all the water (a little earlier in the case of the Siamese rice and later in the Indian variety). It is then stirred round twice with a large spoon or chabok and the burning wood is taken out from under the kwali, only glowing charcoal being left. When the rice has become soft, which occurs about 20 minutes later, the rice is taken out with a large spoon, care being taken not to disturb the thin sheet of burnt rice, or krak, which is caked over the surface of the kwali. The cake of burnt rice is afterwards scraped out and given to the fowls, pigs, &c. The two varieties of rice were both cooked in the same manner by the same cook (a Chinese). It is worthy of note that the culinary methods followed by Tamils and other consumers of cured rice differ slightly from the Chinese procedure. Tamils cook their rice with a larger proportion of water and when it commences to boil they pour off the supernatant fluid, whereas the Chinese allow the rice to take up all the water and pour none off. This is an important fact if the theoretical poison in rice which is supposed to cause beri-beri be soluble in water. Throughout the course of the experiment at the asylum a separate kwali, or cooking-pot, was used for each kind of rice and no uncured rice was cooked in the kwali set apart for the preparation of Bengal rice. Similarly different spoons, &c., were used for stirring each kind of rice and also for serving it out to the patients. Two sets of plates were provided, one for the patients on cured rice and another for the patients on Siamese.

10. It has already been mentioned that 10 patients who had been eating uncured rice and had developed beri-beri were transferred to the Bengal rice diet and recovered. The admission of these patients caused some overcrowding in the Bengal rice ward. Four men were therefore transferred from the cured rice ward and put on a diet of uncured rice. These men were not selected in any way, but the first four names on the Bengal rice list were taken. They were apparently healthy and had been on a diet of cured rice since

Dec. 5th, 1905. The following is a list of these four patients and the result of their transfer:—

No.	Name.	Transferred to uncured rice.	Result.
1	Salleh.	24/4/06	Remains healthy.
2	Foo Lim.	"	Developed beri-beri on 7/7/06. He had had beri-beri 10 months before.
3	Hee Chong	27/4/06	Developed œdema and some weakness.
4	Quai Kiam.	23/6/06	Developed beri beri 27/8/06 and died on 24/9/06.

No conclusion can be based on the above, the numbers are too small; but one cannot help being struck by the fact that 10 patients suffering from beri-beri transferred to Bengal (cured) rice all recovered, whereas of four apparently healthy men transferred from Bengal to Siamese (uncured) rice two developed beri-beri, one of whom died.

11. At the commencement of the experiment on Dec. 5th, 1905, there were 59 patients remaining in the asylum; 29 of these patients were placed on a diet of cured rice, whilst 30 remained on Siamese rice. From Dec. 5th, 1905, to Dec. 31st, 1906, 90 lunatics were admitted to the Siamese rice ward, 17 of them developed beri-beri; whilst of the 30 remaining on Dec. 5th 17 developed beri-beri before Dec. 31st, 1906. During the course of the experiment four lunatics were admitted to the asylum who were already suffering from beri-beri. They were admitted on the following dates: Dec. 10th, Jan. 23rd, March 19th, and June 5th. Two of them were put on Siamese and two on Bengal rice. The majority of the cases of beri-beri occurred amongst lunatics who had been in the asylum for a considerable time.

	Cases.
Cases suffering from beri-beri on admission	4
Cases occurring amongst lunatics during their first month in the asylum	6
Cases occurring amongst lunatics during their second month in the asylum	7
Cases occurring amongst lunatics during their third month in the asylum	8
Cases occurring amongst patients who had been in the asylum more than three months	20
Total	45

In all 36 persons suffered from beri-beri. One patient had three attacks and seven patients two attacks. 28 had one attack. Whether the eight patients who were attacked with beri-beri more than once during the experiment actually suffered from a fresh "infection" (if one may use the word in this connexion) or whether the subsequent attacks were of the nature of relapses it is impossible to say, owing to our lack of knowledge of the actual cause of the disease.

Of the 36 persons who suffered from beri-beri 16 died during their first attack; ten were transferred to the cured rice ward, and all recovered; of the ten patients who remained on Siam rice two were discharged from the asylum before being attacked a second time and eight had relapses.

Died during first attack	16
Transferred to Bengal ward during first attack and recovered without relapse	10
Discharged from asylum before being attacked a second time	2
Remaining on Siam rice and suffering from second or third attacks of beri-beri	8
Total	36

12. The mortality of the lunatics on either diet was much the same except with regard to beri-beri:—

Cause of death.	Number of deaths (Bengal rice).	Number of deaths (Siam rice).
Beri-beri	0	18
Mania	6	4
Other causes	4	2
Dysentery	11	11
Total	21	35

Summary.

13. *A.* Amongst 120 patients on uncured rice there were 43 cases of beri-beri (two admitted with the disease) and 18 deaths. Amongst 123 patients on cured rice there were two cases of beri-beri, and these both had the disease on admission. *B.* Ten lunatics actually suffering from beri-beri who were placed on a diet of cured rice all recovered. Of 26 patients suffering from beri-beri who were not put on a cured-rice diet 18 died. *C.* None of the ten lunatics suffering from beri-beri who were placed on a diet of cured rice had a relapse. Of the 26 patients suffering from beri-beri who were not transferred to a cured-rice diet 16 died during the first attack and the remaining ten all developed beri-beri again with the exception of two who were discharged, being no longer insane. The latter have been lost sight of and whether either of them subsequently relapsed is unknown. *D.* Four lunatics who had been on a diet of cured rice for more than five months and were apparently healthy were transferred to a diet of uncured rice. Two of these patients developed beri-beri within three months.

14. In an experiment of this nature the personal factor always comes in question. It may, therefore, not be out of place to state here that at the commencement of the experiment the opinion was held by myself that rice was neither directly nor indirectly the cause of beri-beri. It was fully expected that the patients on Bengal rice would suffer from beri-beri to the same extent as those who remained on the Siamese variety and that the result of the experiment would be a refutation of the rice theory. With this in view precautions were taken to provide separate cooking utensils, plates, &c., for each set of patients in order that the upholders of the rice theory might not be able to point to any possibility of contamination of the Bengal rice with the poison which is supposed to be present in uncured rice. Contrary to expectation, the result of the experiment, so far as it goes, is to prove the truth of Dr. Braddon's contention that uncured rice is the cause of beri-beri. It remains to be proved whether the cause of the disease amongst the eaters of uncured rice is a poison contained in the rice or whether there is something essential to the human economy which is supplied by the cured rice whilst it is absent in the uncured. Takaki and the Japanese school still hold that a deficiency of proteids in the diet is the cause of beri-beri. As yet it has, unfortunately, not been possible to obtain analysis of the two kinds of rice; but when this is done it will probably be found that the cured rice contains a larger quantity of proteid matter than the uncured. If this be the case the deficiency of proteid matter in the diet may be the actual cause of the disease, or, what is more likely, the lack of nutritive matter in the rice may induce a condition in the patient which renders him an easy prey to some external agency—bacterial or protozoal—which is the actual cause of beri-beri. It is well known that certain conditions of the body render it specially liable to the attacks of beri-beri—e.g., syphilis and the puerperium. In 1904 there were eight cases of beri-beri amongst women admitted to the General Hospital, Kuala Lumpur; all these occurred amongst women in the puerperal state.

Conclusions.

15. Uncured rice is, either directly or indirectly, a cause of beri-beri, the actual cause being either (1) a poison contained in the rice; (2) deficiency of proteid matter, the disease being due to nitrogen starvation; or (3) uncured rice does not form a sufficiently nutritive diet and renders the patient's system specially liable to invasion by a specific organism, which is the cause of beri-beri.

Postscript.—Throughout the course of the experiment no doubtful cases have been noted as beri-beri. Many cases of slight œdema, abnormal reflexes, &c., may have been of the nature of abortive attacks. The following record of an examination of the knee-jerks and of the presence or absence of œdema amongst the patients now in the asylum may be of interest. The examination was made on May 19th, 1907. The results were as follows: the knee-jerks *of* patients on Siam rice (May 19th, 1907): present, 13; absent 18 (in 5 absent on admission); increased, 6; total, 37. Knee-jerks of patients on Bengal rice (May 19th, 1907): present, 23; absent, 8 (in each case absent on admission); increased, 5; total, 36. With regard to œdema, patients on Siamese rice 10 out of 37 had it and patients on Bengal rice 4 out of 36. Sixteen of the 37 patients on Siamese rice were *admitted* to the asylum before the beginning of 1907 and *consequently* had been on this diet for a considerable period; in eight of these 16 cases the knee-jerk was absent and in three it was increased, while in five œdema was present. In all those eight cases on Bengal rice in which the knee-jerks were absent they were noted as being absent on admission. Three were cases which had been transferred to a Bengal rice diet after having developed beri-beri whilst on a Siam rice diet. Two had been treated for beri-beri in other hospitals. Two gave a history of previous attacks. In one case the cause of absence of reflex is unknown. Since the end of December, 1906, up to the present date (May 19th, 1907) 12 cases of beri-beri have developed amongst the patients on a Siamese uncured rice diet. No patients on Bengal (cured) rice have suffered from the disease. The 12 cases occurred as follows:—

During the first month of residence in asylum	0
During the second month " "	3
During the third month " "	4
After three months' residence in asylum	5
Relapse cases	0
Total	12

Thus from the commencement of the experiment in December, 1905 (excluding patients actually suffering from the disease on their admission to the asylum), there have been (41 + 12) 53 cases of beri-beri amongst the patients on Siamese rice and none amongst those on a Bengal rice diet.

Kuala Lumpur, Federated Malay States.

Medical Societies.

Society for the Study of Disease in Children.—The annual provincial meeting of this society was held on June 15th at Bedford, Dr. R. H. Coombs being in the chair.—Dr. C. O. Hawthorne opened a discussion on Acute Rheumatism in Childhood. He referred to the considerable change which had taken place in the professional view of the age incidence and to the special characters which distinguish the disease in childhood, especially the frequency of cardiac disease. This he attributed partly to the absence of restraint of the child's activities resulting from the comparative escape of the joints, and he advocated the practice of informing the parents of rheumatic families of the risks involved even in the apparently trivial illnesses of their children. He thought that there was too ready a tendency to apply the term "rheumatism" to isolated events, the nature and origin of which were obscure. He also discussed the curative and prophylactic treatment.—Dr. W. Ewart suggested that the glandular condition of early childhood was less prone to favour retardation in the joints and the child could rid himself of disease in the joints and it would find a seat elsewhere. He suggested calomel and antiphlogistic remedies in the treatment of endocarditis.—Dr. A. Morison referred to erythema nodosum, which, he said, was not limited to rheumatic subjects; it was generally preceded by tonsillitis at an interval of from 10 to 14 days. He looked upon this as its incubation period.—Dr. A. C. Hartley (Bedford) said that in that town, on the banks of a river, with a damp climate, it would be expected that rheumatism would be very common, but his experience of 14 years did not bear this out.—Dr. G. A. Sutherland thought that it was a mistake to prolong rest in bed after active endocarditis had passed away, which was frequently done owing to the reappearance of a murmur. He referred to cases of recurring subacute rheumatism where salicylates failed; he considered that there was some concealed source of infection which was not discovered.—Dr. E Cautley read a paper on Cerebro-spinal Meningitis. He mentioned the different varieties and their relative age incidence as an aid to diagnosis; also the relationship of the sporadic to the epidemic variety, the means of diagnosis, including lumbar puncture, &c.—Mr. A. H. Tubby read a paper on Contraction of the Tendo Achillis as a cause of the following symptoms: pains in the calves, shambling gait, sprained ankle, everted feet, turning in of the toes, &c. He said that the contraction of the calf muscles produced a lessening of the power of dorsiflexion of the foot and shortening of the stride in consequence. It was usually due to infantile paralysis and could be remedied by lengthening the tendon, the method of doing which was described.—Dr. H. Skelding described a case of Bilharzia in a boy, aged 11 years, who came from Rhodesia. The symptoms were great drowsiness and hæmaturia. The ova were found in the urine.—Dr. G. Harvey Goldsmith described a condition occurring in children to which he gave the name of "œdema of the limbus." There were photophobia and injection of the ocular conjunctiva, on which were small grey nodules that never broke down. It was rapidly cured by the yellow oxide of mercury ointment.—Clinical cases, pathological and microscopical specimens, and skiagrams were shown by Dr. Goldsmith, Dr. Ross, Dr. R. Coates, Dr. W. Phillips, Dr. H. L. Waller, Mr. Johnson, Mr. W. A. Sharpin, Mr. W. G. Nash, and Mr. G. T. Verry.

Bradford Medico-Chirurgical Society.—A meeting of this society was held on May 28th, Dr. A. Mantle, the President, being in the chair.—A paper was read by Dr. A. F. Martin entitled "A Study of Post-typhoid Pyrexia" in which an account was given of 13 cases of typhoid fever out of a total of 63 admitted to the North Staffordshire Infirmary in the year 1905 which developed post-typhoid fevers of other nature than a relapse. A review of the English and American literature of the subject was given, and a classification suggested by Delafield as a basis of study was adopted since it agreed with the findings of Dr. Martin in his cases. The important thing was to distinguish these fevers from relapses. Curschmann was quoted as insisting on the reappearance of some of the classical signs of the typhoid infection before a diagnosis of relapse could be arrived at. In the fevers in question these were absent. Of the three types which Delafield found to exist the first included all those rises of temperature which were slight and temporary. They usually occurred in those who were of a nervous introspective temperament and their only importance was to learn to disregard them. These and perhaps some others were of a purely nervous origin. In the second group the fever was of indefinite length, lasting from eight days to one month, developing early in convalescence, and was of a remitting type suggestive of chronic septicæmia. The general condition showed a progressive wasting and later cardiac weakness. Some were mild and others were very severe infections. The treatment adopted in checking the fever was as speedy a return to full diet as was consistent with safety. Salicylate of sodium was found to be of no avail. In one case fæcal accumulation had occurred before the onset of the secondary fever without any rise of temperature. The view held by Da Costa that constipation was a frequent cause of post-typhoid pyrexia did not receive support from this and other cases. The anæmic and the nervous origin of these fevers was discussed, but did not find strong support from observations made. In the third group the fever was similar in type but was accompanied by venous thrombosis. Hacker's statement was taken as evidence of their septic nature—namely, that in post-typhoid thrombosis pyogenic cocci were frequently found in the thrombus, whereas Eberth's bacillus typhosus had not been isolated. These thromboses occurred chiefly in those cases where the primary fever had been unusually lengthy, and the fever accompanying them was often severe and showed rigors. The treatment adopted was the same as in the previous group and it was found that salicylate treatment in some cases was beneficial and in others a course of antistreptococcic serum did good. There were six cases of this type, the last being a remarkable case of post-typhoid mitral endocarditis developing nine weeks after the primary fever had abated. It was argued from a similarity of the type of fever in Groups 2 and 3 that the second group could fairly be said to be of septic origin.

Reviews and Notices of Books.

George Buchanan: A Memorial 1506–1906. Contributions by various writers, compiled and edited by D. A. Millar. St. Andrews: W. C. Henderson and Son, University Press; London: David Nutt. 1907.

Just a year ago Scotland celebrated the fourth centenary of one of her forgotten worthies, George Buchanan, first at St. Andrews, of which he was an alumnus and afterwards principal; and, secondly, at Glasgow, in which university, as a west country Scot, he took special interest. Both celebrations were in the highest degree successful, evoking in favour of the "Humanism," of which he was a typical exemplar, a demonstration which must have been peculiarly reassuring to those who think humanistic study doomed to succumb before the forward movement of science. They afforded convincing proof that there need be no antagonism between the old learning and the new—both celebrations, indeed, owing initiative and support to men of the most varied interests, literary as well as scientific, belonging, moreover, to professions in which the medical was hardly less prominent than those of the Church and Bar.

The present volume is issued under the auspices of the Students' Representative Council of the University of St. Andrews, in whose behalf it has been edited by a distinguished member of that body, Mr. D. A. Millar, who has interpreted his duties in the largest and most liberal sense and given them practical effect with equal industry and skill. It is a *Festschrift* artistic in its exterior and exhaustive in its contents, contributed, as these have been, by some five-and-twenty experts in the departments covered by Buchanan's life-work, and resulting in an *ensemble* from which a full and faithful portrait of the man in his many-sided character and career can be drawn by every reader for himself.

First comes an Alcaic ode in 20 quatrains by Dr. J. P. Steele, of which the following may be given as a sketch of the romantic vicissitudes of Buchanan's life on the banks of the Seine or the Garonne, the Mondego or the Po, the Thames or the Forth, and the integrity of character that he maintained through them all:—

"Tu, sive potes Sequanam et Orbilii
Fungare duro munere; seu valens
Praelector ad latum Garumnam
Vasconidas renoves Athenas;

Seu Lusitanae de cathedra Scholae
Pulsus maligno crimine, carceris
Sub nocte prospectes in horas
Supplicium nece pejus ipsa;

Seu propter undas Eridani ducem
Gallum sequaris Palladaque inferas
In castra Mavortis, remixtis
Carminibus lituo strepenti;

Seu missus Aulae nuntius Anglicae,
Regisve doctor sis vigil alite
Nati sinistra; seu Supremo
Concilio moderere Cleri;

Tu semper idem, nec pede devio
Rectum relinquens, dotibus uteris
Sic mentis ut, vultu sereno,
Æquus eas per iniqua rerum."

Sir Archibald C. Lawrie follows with a luminous paper on Buchanan's progeniture and then comes a pleasantly written account of his "Early Surroundings and Associations," by the Rev. R. Munro. "Buchanan's Student Days" is the theme of the next chapter, by Mr. W. Bayne, lecturer in English at the University of St. Andrews; "Buchanan and Continental Thought" forms the next contribution from the highly competent pen of Principal Lindsay of the United Free Church College, Glasgow; and a bright essay in French on "Buchanan à Bordeaux" comes from the Latin professor at that seat of learning, M. H. de la Ville de Mirmont. This is followed by other papers, all bearing on the life and work of Buchanan, papers among which may be signalised those of Senhor G. J. C. Henriques, legal adviser to the British Embassy at Lisbon, on "Buchanan in Portugal"—a most interesting paper for the light which it throws (*inter alia*) on the methods of the Inquisition; of Mr. A. H. Millar, who gives an impartial account of the great humanist's relations with Mary Stuart; of Dr. Mackinnon of St. Andrews, on "Buchanan as a Political Philosopher"; of Mr. Munro on "Humanism and Science," *à propos* of Buchanan's great poem, so much admired by Hallam, "De Sphaerâ"; of Mr. Maitland Anderson on the Bibliography and Portraits of Buchanan (two admirable contributions); and of Miss L. P. S. Hutton, who discourses with acuteness and *brio* on "The Humanist: a Psychological Study." The editor's elaborate paper on "Buchanan Memorials" winds up the list of original contributions, followed by an epilogue in English verse addressed to George Buchanan by the Rev. A. Brown—a composition worthy of the best translator of Buchanan's "Sacred Dramas."

The second half of the volume contains specimens of Buchanan's poems in the Latin original, with translations into English and French contributed by the successful competitors at St. Andrews, Paris, and Bordeaux respectively for the prizes given for these translations by Dr. Steele. These are of various merit, the French renderings of Buchanan's magnificent ode on the Taking of Calais, by M. Bonnerie and M. Pettimangin of Paris, worthily dividing the palm with "Father Prout's" animated version, which is printed between them. Bordeaux also appears to advantage in M. de la Vaissière de Lavergne's translation of the famous Sapphic ode, "Ad Juventutem Burdigalensem," which, too, is effectively reproduced in English by Mr. Lionel S. Charles of the University of St. Andrews. Mr. T. D. Robb, the winner of the prize (value £105) for an essay on "Sixteenth Century Humanism as illustrated by the Life and Work of George Buchanan," translates with much felicity the elegiacs in which Buchanan depicts the wretched condition of the teaching profession in the Paris of his day and also the noble sonnet addressed by the great "humanist and reformer" to the good and accomplished Archbishop of Glasgow, Gavin Dunbar. Nine appendices appear at the end of the volume, the last one giving a full report of the quatercentenary celebration, with Lord Reay's "Oraison de Circonstance" (a masterly performance), and the banquet which closed the day, at which the Irish delegates, Professor Mahaffy, Professor Tyrrell, and Professor Dill spoke with the national fluency and effect, in worthy keeping with the humorous, pathetic, and in all respects admirable speech of the chairman, Principal Donaldson.

One word as to the illustrations, 35 in number, which form an excellent aid to the letterpress, whether in reproducing the portraits of Buchanan at the several stages of his chequered life or in presenting the haunts of his youth, his manhood, his middle age, and his declining years. Portraits taken from photographs of the chief actors in the quatercentenary celebration are also given.

International Clinics. Edited by A. O. J. KELLY, A.M., M.D., Philadelphia, U.S.A. Vols. II. and III., Sixteenth series. 1906. *London and Philadelphia*: J. B. Lippincott Company. Vol. II., pp. 302; Vol. III., pp. 302.

VOLUME II. of the above series contains numerous contributions of considerable interest. Dr. Delancey Rochester (associate professor of the principles and practice of medicine in the University of Buffalo) writes on the Prognosis and Treatment of the Chronic Valvular Diseases of the Heart. He points out that the factors to be taken into consideration in the prognosis of these diseases are: (1) the valve affected; (2) the nature of the lesion; (3) its effect upon the myocardium; and (4) the resultant effect upon the capillary circulation in general and upon the pulmonary and the portal circulation in particular. He also adds that other factors of some value in the prognosis are the causes concerned in the production of the especial valvular lesion under consideration and the associated conditions of the arterial walls. In order to arrive at a correct conclusion as to the prognosis in any particular case all the above points have to be weighed carefully and the two last mentioned are likely to be forgotten, although they are of considerable importance. Dr. Rochester's remarks on treatment are sound and practical. He rightly calls attention to the necessity of lessening the amount of peripheral resistance which the heart has to overcome. If cardiac stimulants only are given without the addition of vaso-dilators harm rather than good may result.

Dr. Philip Jenner (professor of neurology in the Medical College of Ohio) contributes an article on the Prophylaxis of Nervous Disease, with special reference to educational influences in the growing child. He offers some interesting suggestions as to the lines along which a child's education should be conducted. Amongst other contributions to this volume may be mentioned the following: The Diagnosis and Treatment of Abscess and Gangrene of the Lungs, with special reference to Operation, by Dr. Frederick T. Lord, physician to out-patients, Massachusetts General Hospital; Tumours of the Mammary Gland, with special reference to their Diagnosis, Prognosis, and Treatment, by Dr. W. L. Rodman, professor of the principles and practice of surgery in the Medico-Chirurgical College, Philadelphia; and Fœtal Hydrocephalus as a Cause of Delay in Labour, by Dr. J. W. Ballantyne of Edinburgh.

In Volume III. is a paper by Dr. J. W. Patten (professor of diseases of the chest in the Chicago Polyclinic) on the Treatment of Certain Forms of Bronchitis. The author draws attention to infections of the upper bronchial tract due to a variety of micro-organisms, the most important of which are streptococci, staphylococci, and the pathogenic organism of influenza. In the treatment of these forms of bronchitis Dr. Patten points out that there are two important facts to be considered. First, that the expectorants so freely used in the treatment of ordinary forms of bronchitis are practically useless; and secondly, that cough sedatives are inadmissible except in isolated instances. The general principle governing this point is whether the cough is beneficent or not, and if so, whether it is accomplishing its object without causing undue disturbance. Dr. Patten also comments on the value of the iodides in the treatment of bronchitis. He considers iodide of sodium the most generally useful preparation of its class because of "its acceptability to the stomach, because it shows little tendency to cumulative effects, and because it does not cause so much or as lasting depression." Mr. H. S. Clogg (assistant surgeon to Charing Cross Hospital, London) contributes an instructive article on the Diagnosis of some Chronic Joint Affections. His remarks are well worthy of study. He draws attention to the unsatisfactory state of the nomenclature of affections of the joint and adopts the term "osteoarthritis" for a form of disease characterised pathologically by wearing away of the articular cartilage, some atrophy of the bone ends, some osteophytic outgrowths around the margins of the joint, and, in addition, some changes in the ligaments and synovial membrane. The terms "rheumatoid arthritis" and "rheumatic gout" are sometimes applied to this condition but are obviously less accurate. An article by Dr. J. W. Wainwright (New York) on the Predisposition to and the Prevention and Treatment of Pulmonary Tuberculosis, is also well worthy of perusal. Amongst other contributions to this volume attention may be drawn to the following: the Surgical Complications of Pneumonia and their Treatment, by Dr. T. Turner Thomas, assistant surgeon to the University and the Philadelphia General Hospitals; Some Surgical Results which may follow Improper Feeding, by Mr. E. M. Corner, surgeon to out-patients at St. Thomas's Hospital, London; and Leukæmia and Sarcomatosis, by Dr. G. Banti, professor of pathological anatomy in the University of Florence.

LIBRARY TABLE.

Doctors and Patients; and Hospital Heroes. By J. JOHNSTON, M.D. Edin. Annan: W. Cuthbertson.—In these two little pamphlets Dr. Johnston touches on the grave and gay sides of medical practice with equal interest. The heroes include such types as all who work in hospital or general practice must have been the better for meeting, but we feel inclined to cavil at the inclusion of a dramatic account of the voluntary sacrifice of a house surgeon's life by the sucking of diphtheritic mucus from a tracheotomy tube. We respect the author's admiration of a heroic deed that perhaps resulted in the early death of a friend, but we fear that this act has often been a foolhardy and unnecessary one, at any rate in hospitals where appliances should be at hand which could entirely obviate its necessity, and we do not consider that the exploit should be held up as a pattern of duty, although we do not wish to discount the devotion of the many valuable lives that have been sacrificed by a too generous impulse. The "Doctors and Patients" contains some excellent funny stories connected with medical practice. There are certainly some chestnuts in the basket but there are some real plums which are, we think, quite fresh.

The Laws of Health: a Handbook on School Hygiene. By CARSTAIRS C. DOUGLAS, M.D. Edin., D.Sc. (Public Health) Edin., F.R.S.Edin. London and Glasgow: Blackie and Son. Pp. 240. Price 3s. net.—This is a really excellent manual for the purpose for which it was written, which is to give an elementary but sound instruction to teachers in all that concerns the hygiene of children at school. The information has been well chosen and is clearly expressed. Just sufficient anatomy and physiology have been included to enable an ordinarily intelligent reader to appreciate the principles of applied hygiene that depend on them. In a subject which abounds with controversy the author shows no partisanship and deals with the medical inspection and feeding of school children, the use of corporal punishment, and the like, simply from the point of view of the child's health. The ventilation, lighting, and structure of schools are carefully considered and the instruction given on the means of recognising the commoner diseases of childhood and the simple measures of treatment which the teacher may safely carry out himself is quite adequate. Infectious diseases receive the notice that their importance warrants and a useful chapter on physical exercises is included. This book might profitably be read by the medical student as a sound introduction to the study of preventive medicine and will undoubtedly prove of value to teachers in schools.

Medical Examination Questions Set at the University of Edinburgh and Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow for Several Years. Edinburgh: John Currie. Pp. 230. Price 2s.—This book contains a good selection of papers set for the various preliminary and final examinations of the above-mentioned bodies. Students who propose to enter within a short time for any of these or other medical examinations will find it of value in their preparation as it covers a wide range of questions. The use of some such test is to be recommended, as not a few students undoubtedly fail chiefly through their inability to impart their knowledge to their examiners in an intelligible manner. The value of the present book would be improved if the time allowed for the various papers were mentioned. We understand that it will be produced annually in May.

The City of London Directory, 1907. London: W. H. and L. Collingridge. Pp. 1178. Price 12s. 6d.—This Directory, of which the present is the thirty-seventh annual edition, contains much valuable information not easily otherwise accessible concerning the City of London, the corporation, the livery companies, and other public bodies responsible for the government of Greater London. The Biographical Section, comprising portraits and biographies of the aldermen and principal officers of the corporation, the City Members of Parliament, and many of the masters of the livery companies, is both useful and engaging. The section devoted to the livery companies is full of historical facts and quaint records of charity which conjure up to the mind's eye scenes in the life of old London. The Directory also contains the usual alphabetical list of names, the list of streets and houses with their occupiers, and the list of trades and their followers. A large coloured map, which shows admirably the details o "the one square mile," is a most useful adjunct to the work

JOURNALS AND MAGAZINES.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, M A., F.R S., with the coöperation of ADAM SEDGWICK, F.R.S., SYDNEY J. HICKSON, F.R.S., and E. A. MINCHIN, M.A. With Lithographic Plates and Text Figures. London: J. and A. Churchill. New Series. No. 202. Pp. 177. Price 10*s.*—The contents of this part are: 1. The Origin and Nature of the Green Cells of Convoluta Roscoffensis, by Frederick Keeble, M.A., D.Sc., and F. W. Gamble, D.Sc. This article, which is illustrated by two well-executed plates, affords evidences of entry of the green cells of an alga into the colourless body of convoluta roscoffensis after hatching. Infection takes place from the sea water or from chemotactic attraction between the infecting organism and the egg capsules. The green cells are incapable of living when isolated from the animal. The infecting organism shows the essential characters of the chlamydomonidæ; the green cells serve as an excretory system to the animal. Finally, the relation between the green cells and the animal changes, passing from a symbiotic relation to one in which the animal is parasitic on the algal cells. The association leads to alteration of habit on the part of the animal—as, for example, its ceasing to ingest food—and is best interpreted as an economically unsound attempt on the part of both green cell and animal to solve the "nitrogen problem." 2. On the Development of Plumes in Buds of Cephalodiscus, by W. G. Ridewood, D.Sc. Dr. Ridewood reproduces the figures and statements in regard to the plumes of cephalodiscus dodecalophus published in the Transactions of the Royal Society of Edinburgh for 1898 and contests their accuracy not only in the case of cephalodiscus dodecalophus but in C. Hodgsoni, C. nigrescens, and C. Gilchristi. In particular he finds that the torsion of the axes of the first and second plumes of the buds of cephalodiscus described by Masterman does not occur. He considers that the last two pairs of plumes arise on the dorsal side of the first two pairs of plumes and the buccal shield and not between the first two pairs of plumes and the buccal shield as described by Masterman. He finds, too, that the plume axes develop in pairs successively and when the third and fourth pair of plume axes (there are seven in all) are beginning to develop the edge of the post-oral lamella is in contact with it and with each last developed pair of plume axes. The line of plume bases in the adult when viewed from the front is an ellipse incomplete on the upper side, and the line of the attached edge of the post-oral lamella forms another ellipse similarly incomplete. The two ellipses join where they are incomplete. 3. On the Structure of Ænigma Ænigmatica, Chemnitz: a contribution to our Knowledge of the Lamellibranchiate Anomiacæ, with three plates, by Gilbert C. Bourne, D.Sc Oxon. The Ænigma is one of the genera of the oyster family found living on the roots and branches of Nipa, a palm growing at Sarawak. It is allied to the Anomia ephippium and is capable of resisting desiccation for long periods of time. Dr. Bourne gives a very careful description of the specimens which he examined with illustrations of the anatomy: 4. On the Chromatin Masses of Piroplasma Bigeminum (Babesia Bovis), the Parasite of Texas Cattle Fever or Red Water Fever, by H. B. Fantham, B.Sc. Lond., with a plate and 44 figures in the text. The chromatin masses were found in pairs in the interior of the blood corpuscles and were of pyriform shape. About 90 per cent. of the blood corpuscles were infected. 5. The Skin, Hair, and Reproductive Organs of Notoryctes typhlops (Stirling) Parts IV. and V., by Georgina Sweet, D.Sc., Melbourne University. This animal belongs to the marsupial group and the parts mentioned are fully described and compared with similar parts in other genera of marsupials. 6. Parorchis acanthus: the Type of a New Genus of Trematodes, by William Nicoll, M.A., B.Sc., with a plate. Two specimens were found in the bursa Fabricii of the herring gull (*Larus argentatus*), and others in the same position in Larus canus. The usual length of the animal is from three to five millimetres. The suckers are globular and highly muscular; the oral sucker is the larger of the two. The alimentary system is well developed. The excretory system presents several peculiarities: it has two wide median and two lateral trunks which communicate posteriorly with a vesicle which is of irregular form, situated at the hind end of the body, and presents on each side about four short unsymmetrical branches. It has a dorsal aperture.

The Bio-Chemical Journal. Edited by BENJAMIN MOORE, D.Sc., and EDWARD WHITLEY, M.A. Vol. II., Nos. 5 and 6. May 22nd, 1907. Published by the Bio-Chemical Department, Johnston Laboratories, University of Liverpool. Pp. 107 Annual subscription, 15*s.*—The articles contained in these numbers are: 1. A New Case of Alkaptonuria, by Archibald E. Garrod and J. Wood Clarke. The patient was a girl three years of age, an only child, and there was no blood relationship between the parents. The nurse noticed that her apron was stained on the second day of the child's life; appropriate tests showed that the dark colour was due to the presence of homogentisic acid. There was no second alkapton acid. The quantity of the acid daily excreted was 1·832 grammes. The amount excreted represented all the tyrosin and phenylalanin of the proteins broken down. 2. On the Size of the Cells of Pleurococcus and Saccharomyces in Solutions of a Neutral Salt, by Eric Drabble, D.Sc., Hilda Drabble, and Daisy Scott, M.Sc. The authors show that the cells of yeast and pleurococcus undergo decrease in size with increase in the external osmotic pressure of the medium in which they lie. Hence plasmolysis fails as a ready means of determining the *osmotic strength* of their cell sap, but in mature cells of multicellular plants the plasmolytic method is capable of yielding trustworthy and approximately correct measurements of the osmotic strength of the cell sap, for in them the extensibility of the cell wall is generally negligible and increase in osmotic strength of the osmotic medium fails to cause shrinkage of the cell until the externally and internally directed pressures are equal. From that stage onwards increase in concentration of the external medium results in plasmolysis. 3. Metabolism in a Vegetarian, by William Gordon Little, M.D. Edin., and Charles E. Harris, Ph.D. Erlangen. 4. Ergotoxin and some other Constituents of Ergot, by G. Barger, M.A. Cantab., and H. H. Dale, M.A. Cantab.; this is a long and valuable article. 5. On the Treatment of Trypanosomiasis by Atoxyl (an Organic Arsenical Compound) followed by a Mercuric Salt (Mercuric Chloride), being a bio-chemical study of the reaction of a parasitic protozoon to different chemical reagents at different stages of its life-history, by Benjamin Moore, D.Sc., Maximilien Nierenstein, Ph.D. Berne, and John L. Todd, B.A., M.D. McGill.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

(1) FERRO-MANGAN PREPARATIONS; AND (2) REGULIN.

(MATTHAEI AND CO, AGENTS, 12 AND 15, CULLUM-STREET, LONDON, E C.)

1. WE have carefully examined the ferro-mangan preparations, with the result that we found that their composition is correctly detailed. Dieterich's ferro-mangan is a non-alcoholic fluid in which both iron and manganese occur in the form of organic compounds—namely, peptonates. This

preparation has been reported on very favourably in German clinics in cases of anæmia, the results showing generally a manifest improvement in the hæmoglobin content of the blood. An important feature of the preparation is that whilst it exhibits a good proportion of iron the metal is not presented in the form of ordinary salts which disturb digestion. The usefulness of the compound is extended by combining it with bromine and iodine respectively. The first is stated to be employed with favourable results in conditions of poorness of blood associated with nervous disorders; and the second in similar conditions co-existent with diseases of the glandular system and in rheumatic affections. Our experiments confirmed the statement in regard to the individual constituents set forth. 2. Regulin is an interesting preparation which has been employed according to German clinics in the rational treatment of chronic habitual constipation. Regulin is a preparation of agar-agar in the form of flakes. It is said effectually to soften the fæces which are then readily evacuated. Agar-agar passes through the digestive tract unchanged except that it swells in the mouth and still more in the stomach. The action of agar-agar is, of course, materially helped by the presence of the extract of cascara sagrada. Regulin, in short, is cascara agar.

(1) ERNUTIN; (2) CHLOROFORM; AND (3) ETHER.

(MESSRS. BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

1. Ernutin represents the active principles of ergot in a condition of chemical purity. It is stated to be physiologically standardised by observing its effect on the vaso-motor functions of the sympathetic nervous system. Ergotoxin has been obtained as a pure crystalline salt in the Wellcome Physiological Research Laboratories. The isolation of a definitely pure salt from ergot has filled a decided gap in therapeutics—namely, the standardisation of ergot principles. Under the name ernutin ergotoxin is supplied in tabloid form and also in hermetically sealed phials for hypodermic use. 2. The specimen of chloroform was contained in an amber-coloured glass tube which preserves the purity of the chloroform, keeping it in particular away from the decomposing action of air and daylight. 3. The specimen of ether was contained in a hermetically sealed glass tube and on examination proved to satisfy the requirements of the British Pharmacopœia for pure ether. The tubes are packed in a wooden container and the contents measure 30 cubic centimetres or 60 cubic centimetres, in accordance with the quantity which is found convenient for use.

CALYX PHOSPHATIC CORN-FLOUR.

(THE CALYX MANUFACTURING COMPANY, 16, WATER-LANE, GREAT TOWER STREET, LONDON, E.C.)

The title of this preparation sufficiently describes it. We found it to consist of ordinary corn-flour—that is, maize-flour—to which phosphates, chiefly of calcium, have been added. Ordinary corn-flour yields an ash equivalent to 0·51 per cent. Calyx corn-flour yields 2·20 per cent. of ash, the difference representing the amount of phosphate added. The suggestion of adding phosphates to food is, of course, not new. Such a food would be useful when a deficiency of phosphates exists.

OATMEAL STOUT.

(BARCLAY, PERKINS, AND CO., LIMITED, LONDON, S.E.)

The effect of brewing stout with the addition of oatmeal is calculated to increase the nourishing quality of the malt liquor, inasmuch as oatmeal contains more protein than does barley. This is borne out by our analysis of this stout, the extractives of which contain 8·20 per cent. of protein. Further results were as follows: alcohol by weight 4·62 per cent., by volume 5·78 per cent.; extractives, 5·67 per cent.; and mineral matter, 0·27 per cent. We have examined stouts containing a higher proportion of extractives than is shown above but the proportion of proteins in these extractives is satisfactory. The stout was in good sound condition and possessed a pleasant bitter flavour due to hops.

(1) WHITE VOSLAUER GOLDECK; AND (2) SPARKLING GOLDECK.

(H. SCHLUTER AND CO., 50, MARK-LANE, LONDON, E.C.)

We have already referred in these columns to the excellent red wines known as Voslauer and produced in Austria. 1. We have recently received specimens of a still white Voslauer wine which, it is stated, is allowed in the regimen of the patients undergoing the Schroth-Cantani treatment. However this may be, we found the wine to be of comparatively low alcoholic strength, "dry," and free from acidity. The flavour is delicate. Our analysis gave the following results: alcohol, by weight 7·93 per cent., by volume 9·86 per cent.; extractives, 1·90 per cent.; sugar, 1·0 per cent.; mineral matter, 0·22 per cent.; volatile acidity reckoned as acetic acid, 0·18 per cent.; and fixed acidity reckoned as tartaric acid, 0·54 per cent. It is obviously a wine of fine delicate quality. 2. Sparkling Goldeck presents all the qualities of a good champagne and the results of its analysis show no important differences. They were as follows: alcohol, by weight 10·46 per cent., by volume 12·98 per cent.; extractives, 3·40 per cent.; mineral matter, 0·07 per cent.; volatile acidity reckoned as acetic acid, 0·168 per cent.; fixed acidity reckoned as tartaric acid, 0·54 per cent.; and sugar, 2·46 per cent. The wine has a pleasing flavour and is correctly described as dry, inasmuch as it contains no more sugar than is present in good champagne.

(1) FORMIDINE; (2) SALINE LAXATIVE (EFFERVESCENT); (3) CATHARTIC COMPOUND; AND (4) TRIPLE GLYCERO-PHOSPHATES WITH NUCLEIN.

(PARKE, DAVIS, AND CO., 111, QUEEN VICTORIA-STREET, LONDON, E.C.)

1. Formidine is the name given to a powerful antiseptic adapted for either internal or external use, and chemically it is methylene di-salicylic acid iodide. We had no difficulty in finding salicylic acid and iodide present. It is further described as a condensation product of iodine, formic aldehyde, and salicylic acid; the *rationale* of its antiseptic action will therefore be understood. It appears to be useful for checking bacterial infections of the intestinal tract, whilst it is employed also as a dusting powder for various skin affections. It is said to be without toxic effects. 2. The saline laxative is a well-prepared granular effervescent mixture of the laxative salts, sodium sulphate, sodium phosphate, and magnesium sulphate. It effervesces agreeably and keeps well. 3. The cathartic compound is contained in chocolate-coated tablets, each tablet containing one grain of compound extract of colichon, half a grain of extract of jalap, half a grain of extract of gentian, a quarter of a grain of podophyllum resin, a quarter of a grain of leptandrin, a quarter of a grain of extract of hyoscyamus, and a sufficiency of oil of peppermint. This mass is said to operate without pain or flatulence. 4. The addition of nuclein to the triple glycerophosphates is an advantage, inasmuch as it exhibits a bactericidal action and also has the power of increasing leucocytosis. The combination is suggested as being useful in debilitated conditions generally.

NON-ALCOHOLIC BEER.

(AGENCY: H. D. WELLS AND CO., PRINCES DOCK SIDE, HULL.)

This beer is brewed in Norway and is practically non-alcoholic, the alcohol, according to our analysis, not exceeding 1·0 per cent. by weight. The beer is slightly effervescent and possesses a pleasant and somewhat rich malty flavour. It contains at least 10·0 per cent. of malt extractives and the mineral matter amounting to 0·20 per cent. abounds in soluble phosphates. The malt sugar amounted to 6·42 per cent. In short, this beer is in reality a malt extract. The flavour is decidedly good and the beverage proves to be refreshing and, of course, at the same time it presents a distinct amount of nourishing material.

THE LANCET.

LONDON: SATURDAY, JUNE 29, 1907.

Royal College of Surgeons of England.

THE constitution of the Royal College of Surgeons of England wisely ordains that there shall be at least three vacancies on the Council each year to be filled at the annual meeting of Fellows in July. At the election this year there will be four vacancies, because Sir John Tweedy's term of office was extended owing to the fact that he was President when the period for which he was elected came to an end. We understand that he has decided not to offer himself for re-election, and while we approve of the principle that repeated re-elections are undesirable we cannot but feel that this determination on the part of Sir John Tweedy will mean a very real loss to the College. He discharged the duties attaching to the arduous post of President for three years with satisfaction to the College and with the approbation of all those whose knowledge of College affairs qualifies them to judge. Though Sir John Tweedy has held, and still holds, advanced views on College politics, yet he succeeded in working most amicably with his colleagues, including those whose views differed widely from his own.

The three other retiring members of the Council are Mr. Herbert W. Page, Mr. C. W. Mansell Moullin, and Mr. Frederick S. Eve, and they have all decided to apply for reappointment. There is no rule or custom against retiring candidates reapplying, and indeed at each election one or two do so, but we do not remember any occasion on which all the three members who retire in rotation have decided to offer themselves once more. When a member of the Council has done good work on that body and has during his term of office grown thoroughly familiar with all the methods in which the business of the Council is carried on there is a very good reason for his continuance on the Council for another term, but at each election fresh blood should be introduced in order to prevent the Council becoming out of date. Therefore, without wishing to cast any aspersion on the three retiring members who seek re-election, we think that it is undesirable that all three should be re-elected. In this connexion we must consider, too, the candidates who have not hitherto been members of the Council. These are four in number and we mention them in order of seniority—Mr. Charles Higgens, Mr. W. Bruce Clarke, Mr. Charters J. Symonds, and Mr. W. Dunnett Spanton. Mr. Charles Higgens is now consulting ophthalmic surgeon to Guy's Hospital. He obtained his Fellowship in 1871 and he has done much work in ophthalmology. The retirement of Sir John Tweedy from the Council leaves only one ophthalmic surgeon there—namely, Mr. F. Richardson Cross—and that may be an argument in favour of Mr. Higgens's claims. We are not aware that he has hitherto shown any special interest in College affairs, but his ripe experience would doubtlessly prove of much service on the Council. Mr. W. Bruce Clarke has been a Fellow since 1877. He is surgeon to St. Bartholomew's Hospital and has for many years taken an active part in College politics. He has been a candidate on three previous occasions, first in 1904, and again in 1905, when he retired before the date of election in order not to prejudice the chances of his colleague, Mr. Harrison Cripps, but as this was after the voting forms were printed it was too late to prevent his name appearing before the electors. In 1906 he was also a candidate and he received only 35 votes less than the number recorded for the lowest successful candidate. Mr. Charters Symonds obtained his Fellowship in 1881. He is surgeon to Guy's Hospital and lecturer on surgery to the medical school. He also was an unsuccessful candidate at the election last year and he obtained only 24 votes less than sufficed to elect Mr. Richardson Cross. Mr. Symonds would be a valuable member of the Council. Mr. Spanton of Hanley was elected a Fellow in 1898 under the clause by which Members of 20 years' standing may be elected as Fellows. He is consulting surgeon to the North Staffordshire Infirmary and he has done much good work in surgery.

In coming to a decision as to the most suitable candidates to support at the coming election we have to consider, not merely the relative merits of the candidates but also the medical schools which they represent. Further, we have to bear in mind that, as a rule, provincial Fellows find it difficult to attend regularly at the meetings of the committees which transact so great a portion of the work of the Council. At present there are five provincial members on the Council and we can see no reason for increasing this number. This in itself appears to us to be an argument against Mr. Spanton's claims which somewhat overbalances certain other circumstances in his candidature which suggest that his election would make for the liberalising of the constitution of the College. Of the three retiring members of the Council two belong to the London Hospital. This is certainly no more than the importance of that medical school deserves, but having regard to the desirability of the infusion of fresh blood we think that it is advisable to reappoint only one of these representatives of the London Hospital. With regard to Mr. Bruce Clarke it may be said that St. Bartholomew's Hospital is already fully represented on the Council, but it must not be forgotten that nearly a quarter of the whole list of Fellows comes from that hospital, and therefore perhaps it may not be considered unreasonable that it should have more than its strict proportion of representatives. As we have already mentioned Mr. Bruce Clarke has for some years taken a keen interest in matters concerning the College and we think that his election would add strength to the Council. Therefore, for the four vacancies which have to be filled on Thursday, July 4th, we consider that the most suitable candidates are Mr. H. W. Page, Mr. W. Bruce Clarke, Mr. Charters J. Symonds, and one of the representatives of the London Hospital. To vote under the present conditions is a very simple matter. Voting papers are sent without any request to all Fellows resident in the British Isles and the directions for filling up the voting papers are perfectly clear. Yet it is found that several papers are incorrectly filled up, that more votes are given than there are places vacant, and that several papers usually arrive too late for the election. The signature of each voter has to be attested by a witness; but on a recent occasion one Fellow witnessed his own signature. The vote was, of course, disallowed. With all the facilities for voting it is hard to believe that only about half the Fellows take the trouble to vote. The number of Fellows who vote in person is yearly diminishing and it is becoming increasingly difficult to muster the six Fellows unconnected with the Council who must be present before the election can commence. The time has been postponed to 3 o'clock to make it easier for Fellows to attend, and we hope that many will be present on July 4th at that hour at the College to facilitate the counting of the votes.

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Inflammation.

IT is a well-known principle that as knowledge advances concepts which at first were clear and sharply defined tend to enlarge their boundaries and in the process to lose in definiteness what they gain in extension. An example from the realm of metaphysics may be found in the development of the idea of causation. In the twilight of knowledge man saw everything in an anthropomorphic light and assigned all natural phenomena to the action of living beings more powerful perhaps than himself but acting on similar motives and in similar ways. The cause of any phenomenon was the will of some god or demon: the lightning was hurled by ZEUS; the rain fell by his command; the sun was driven across the sky by APOLLO; and storms were stirred up by POSEIDON. With further observation came the knowledge of uniform sequences among natural phenomena and the cause of any one of them was looked for in those which immediately preceded it. A cause was an invariable antecedent. Still later the idea of evolution arose and it was realised that the universe exhibited an endless procession of events and that the cause of any one was really the whole history of the world, traceable through an unending chain of causes and effects, each new pattern in the kaleidoscope being merely a rearrangement of pieces that had existed for all time. The idea of causation thus expanded into the larger conception of endless ordered change.

A similar expansion is to be seen in the history of the idea of inflammation. At first the concept was simple and clean-cut. The phenomena of redness, swelling, heat, and pain, as seen in certain conditions of the living body, formed a definite group, easily separable from other diseases, such as wounds, fevers, tumours, or apoplexies. A cut or stab might heal up without trouble and be well in a few days, or it might become inflamed, pour out pus, and take weeks before it was well. Nothing could seem clearer than the difference between such conditions. But with the advent of the microscope it became possible to identify the actual series of changes which occurred in an inflamed wound; the redness was found to be caused by dilatation of vessels, the swelling by escape of fluid into the tissues, the pain to be due to tension thus produced and to resulting pressure on nerve terminals, and the heat to increased flow of blood through the part. Cells were destroyed in the process, leucocytes escaped into the tissues, and the lesion was at last repaired by a growth of new fibrous tissue forming a scar. Still the conception of inflammation remained clear and its nature was to some extent explained. But increase of knowledge showed that practically the same phenomena of vascular dilatation, escape of serum and leucocytes, and final repair by fibrous tissue are met with in a simple wound which heals by first intention; some of them follow in a bloodless part such as the cornea when cells are destroyed. The concept, inflammation, now had to be widened so as to include conditions to which the name had never been meant to apply—conditions, indeed, with which it had originally been sharply contrasted. At this stage the well-known definition coined by BURDON-SANDERSON was generally accepted, inflammation being regarded as the reaction of living tissues to an irritant which was not intense enough to cause their immediate death. But criticism and inquiry continued. It was pointed out that if inflammation were a pathological process the repair which follows it cannot be part of the concept, yet it is impossible to separate the destructive from the reparative phenomena. Indeed, in view of the bacterial causation of most examples of inflammation and of the tendency of the exudation to antagonise the invading organisms the whole of the process might be looked upon as defensive and repair merely as the final stage of it. Further, it is impossible to draw any logical distinction between the local phenomena of cellular destruction by toxic agents and the remote consequences of the absorption of these substances seen in fever and parenchymatous degeneration of distant organs; these must also be included. This logical extension is recognised by RIBBERT in his teaching on the subject of inflammation. Some observers further believe that the formation of tumours is due to chronic irritation by agents of low virulence, so that this branch of pathology would also be properly brought under the heading of inflammatory reaction. Thus with increase of knowledge the borders of the realm of inflammation have become so far extended that it embraces almost all the province of pathology and becomes coextensive almost with the idea of disease itself. It is clear that in the process of extension the term has lost its value, and if it is to be retained at all it must be artificially restricted to some portion only of its pathological contents.

Professor J. G. ADAMI, in the admirable article which he contributed to the new edition of Professor T. CLIFFORD ALLBUTT'S and Dr. H. D. ROLLESTON'S "System of Medicine," and which has now been reprinted as a separate volume[1]—an article which serves as the text and basis of these reflections—refuses to accept the final extension admitted by RIBBERT and restricts the term inflammation to local phenomena; yet even then the concept is too wide for general use. It is true that the origin of tumours in continued slight irritation accepted by Professor ADAMI is not by any means established and that this group of maladies must for the present remain contrasted with inflammatory conditions, but to depart so far from the original idea of inflammation and from the popular use of the term as to include the healing of a simple aseptic incision seems undesirable, if we are once to sanction a departure from strict logical and pathological canons. It is rather desirable to return so far as possible to the ancient point of view—to the redness, swelling, pain, and heat of CELSUS—and to endeavour to find the peculiarities which differentiate this group of symptoms from other allied phenomena. Now it is clear that without the presence of vessels there can be no redness or heat, and that their part in the production of swelling is also considerable. Therefore, there would seem justification for restricting the term inflammation to the reaction of vascular parts to injury. But the healing of a wound in a vascular part by first intention is clearly not inflammatory in the popular sense and should be excluded if any distinction can be found between the two processes. Since in most cases inflammation is induced by the entrance of pathogenic bacteria it has been suggested to limit the use of the word inflammation to conditions produced by these agents; but this appears undesirable since simple chemical substances, such as croton oil, are quite capable of exciting a condition exactly resembling that due to micro organisms. Some other criterion must be sought. Now the difference between a simple and an inflamed wound lies in the fact that the former is due to the momentary action of an irritant, the latter to the continued action of the poisonous substances introduced into the tissues. Hence the idea of chronicity seems to form part of the connotation of inflammation which might be roughly defined as the reaction of a living vascular tissue to continued irritation. So restricted the term would include all those conditions which are usually classified as inflammatory and the process of healing which ensues. On rigid pathological grounds the restriction, it is true, cannot be logically justified (nor can an exact definition of what constitutes chronicity be given), but it would enable a popular and essentially clinical term to be retained without undue stretching of its meaning and without the introduction of any teleological conceptions to which some writers have raised objection.

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[1] Inflammation: An Introduction to the Study of Pathology, by J. George Adami, M.A., M.D., F.R.S., Professor of Pathology, McGill University, Montreal. London: Macmillan and Co., 1907, price 5s. net.

The Tenure of the Appointments of Medical Officers of Health.

FOR many years past, indeed almost from the date of the passing of the Public Health Act, 1875, the appointment of medical officers of health for short periods of one or more years has militated against proper and satisfactory sanitary administration, more especially in the small urban and rural districts. The subject has been referred to not only by medical officers of health themselves, who may be looked upon by some as not altogether disinterested parties, but by the medical inspectors of the Local Government Board and by Parliamentary and departmental committees whose inquiries have not been directly connected with the question. The Inter-departmental Committee on Physical Deterioration in 1904 stated most definitely that "a medical officer of health in all areas above a certain population should be required to give his whole time to the work, and in no case, unless convicted of misconduct, should a medical officer of health so engaged be removed without the consent of the Local Government Board." At the end of last year Sir JOHN DICKSON-POYNDER'S Select Committee on the Housing of the Working Classes Acts Amendment Bill recommended that medical officers of health should "hold their appointments during good behaviour and be removable only with the consent of the Local Government Board." A recommendation in almost identical terms was made more than 20 years ago by the Royal Commission on Housing and by the Royal Commission on Labour. Recommendations such as these, coming as they do from those who are above all suspicion of partiality or an obsequious respect for officialism, have up to the present been almost entirely ignored. Beyond an occasional suggestion to a sanitary authority, which asked permission to reappoint a medical officer of health for a further 12 months, that the "Board would raise no objection to his appointment without reference to time," the Local Government Board has made no effort to give effect to the recommendations which we have quoted. We have no desire to be otherwise than quite fair to the Board, the difficulties of which are admittedly great, and although no public pronouncement has been made either by the present President or by any of his predecessors, nor indeed by any of the permanent officials of the Board, it is generally believed that it has long been the intention of the Board to introduce legislation which should have the effect of increasing the number of combined sanitary areas having whole-time medical officers of health and of gradually abolishing the single districts with badly paid officers who are engaged in private practice. If we are correct in this conjecture it is not at all difficult to understand that the Board would be lacking in prudence by consenting actively to support any proposal which would not harmonise with subsequent schemes.

We do not pretend to be in the confidence of Mr. JOHN BURNS but we believe it is not at all unlikely that the Housing Bill, the draft of which the Prime Minister has stated can be laid before the House of Commons at any moment, contains clauses to give practical effect to the intentions of the Board to the extent which we have indicated. There appears, unfortunately, to be very little possibility of the Housing Bill coming before Parliament during this session and this being so we would suggest that the President of the Local Government Board might very well consider the practicability of making the appointments non-lapsing of those medical officers of health who are at present engaged in large combined districts, who are specially qualified for their work, and who devote the whole of their time to their duties. By doing so he would, at any rate, show that he was honestly desirous of giving effect to the recommendations to which we have already referred. The particular manner in which this suggestion should be carried out must necessarily be left to Mr. BURNS and his advisers at the Local Government Board. The Board has powers, we believe, to make an Order which would have the effect of making the appointments non-lapsing of those medical officers of health whose salaries are partly paid out of county council funds. For reasons already stated the Local Government Board may not be desirous of extending this principle to all appointments, but it ought not to be a very difficult matter so to frame an Order that it would not be out of harmony with future legislation contemplated by the Board.

Legislation introduced by the present Government in the interests of the public health has been meagre in the extreme but there is an opportunity now of carrying out a reform which will have the most far-reaching results. Those results will not be confined to the 2,000,000 persons who live within the existing combined sanitary areas; they will be felt in the small towns and in the county boroughs. They will include a cleaner and a purer milk-supply, a more vigilant inspection of slaughtered cattle, increased supervision of fruit and vegetable pickers, and the carrying out of such measures as will give to those who live in urban districts a far greater sense of security regarding their food-supplies than they can possibly have at the present time. We cannot believe that the Government, supported as it is by so large a number of labour representatives, will neglect this chance of carrying out with little or no effort a reform which will result in so large a measure of benefit to the working classes.

Annotations.

"Ne quid nimis."

THE WORKMEN'S COMPENSATION ACT.

SINCE the enactment of the Workmen's Compensation Act that will come into operation next week we have frequently commented on those of its issues which more especially affect the medical man. As recently as May 11th we described in our editorial columns the agency established by the Medical Insurance Committee—a committee of medical men formed at the instance of THE LANCET and the *British Medical Journal*—through which members of our profession will be able to insure against all liabilities, including those arising under the Act, at very favourable terms under the policies of the Guardian Insurance Company, Limited. We think it advisable again to direct attention at this eleventh hour to the great importance of medical men making some such provision, and we take the opportunity to discuss more fully one or two points that we have already raised. The question as to whether a locum-tenent can benefit under the Act is a point of outstanding importance. Although it is true that a salary of 4 guineas a week with board or other allowances is equal to more than the £250 a year that will exclude him from the benefits of the Act, yet it must be remembered that he is not continuously employed for the whole year and so it may well be contended that he is entitled to them. Trained nurses, dispensers, and errand boys also come under its provisions, as although they may be only "occasionally employed," yet their services are required "for the purposes of the employer's trade or business." It is not clear whether charwomen or other such "casual" servants who meet with accidents in medical men's surgeries will have an equal claim; but in this, as well as in any other case where the nature of employment in its relation to the Act admits of much doubt the wiser course will be to insure, at any rate, until the extensive litigation that is certain to ensue has decided a similar case in the employer's favour. One further point that deserves notice is the responsibility for an accident to the coachman of a carriage jobbed by a medical man. The safest course for the latter to pursue is to obtain a written undertaking from the jobmaster that he will bear the responsibility for any claim arising from an accident to the coachman who is, of course, primarily his servant. We may conclude these remarks by again calling attention to the advertisement of the Guardian Company which has undertaken to carry out the scheme of the Medical Insurance Committee. The premiums are moderate and the policy offered not only indemnifies the insurer against the complete liability under the Act but also covers the cost of litigation where wrongful claims for accidents are made and so offers a much-needed protection against the "speculative action" brought by a man of straw against his employer at another's instigation.

TEMPERANCE AND THE "WINE WAR" IN THE SOUTH OF FRANCE.

To the advocates of real temperance the disturbances in the South of France should serve as a useful object-lesson. Here is a country where the over-production of wine has created great distress. Wine is now so cheap that the wine-growers are starving, but this wine, which costs less than the barrel or the bottle in which it is placed, does not produce drunkenness. The physical and moral degeneration which on the continent differentiates the term alcoholism from drunkenness is almost unknown in that part of France. So obvious is it that wine-growing countries are free from the curse of alcoholism that natural light wines are qualified as hygienic drinks and, as fully explained in these columns, all taxes have been removed so as to enable the people freely to drink pure wine.[1] When studying this temperance legislation our Special Commissioner photographed a grocer's shop at the corner of the rue Monge, Paris. Here were barrels containing wine from the very department where the town of Narbonne is situated and the greatest disturbances have occurred. This wine from the department of the Aude was advertised at the retail price of 20 centimes, or 2*d*., per litre, or about 1¼*d*. per the English pint. Our Commissioner bought a litre; it was tasted and analysed in THE LANCET laboratory. The wine was quite palatable and, chemically speaking, was the same as high-class and expensive clarets. Of course, it was wine fresh from the wood. Clarets are only expensive when they come from some well-known vineyards, possess a peculiar *bouquet*, and have been bottled and stored for a considerable time. Otherwise the excellent clarets now retailed in Paris for from 2*d*. to 4*d*. per litre should be sold in London, after paying an entrance duty of 3½*d*. per litre, at from 6*d*. to 10*d*. per litre, or from 4*d*. to 6*d*. per pint. This, however, is only the case in the French quarter of London where there are a quick consumption of wine and a population that knows something about natural and wholesome wines. The difficulty in England is that the public will not drink wine because it cannot realise that wine should be, *and is*, in spite of duty, as cheap as bottled ale and stout. At the same time, it is less "heady," mixes admirably with water, and especially in summer provides a long, refreshing, and innocent drink. The disturbances in the South of France should make the British public realise how cheap is the natural, freshly made, new wine—the wine which is poured out into a tumbler that has generally an ornamental design in the lower portion of the glass reaching a third of the way up. It is bad manners, a sign of coarse breeding, to pour wine above this mark or to fill more than a third of a big glass. The water pitcher follows the litre bottle and at least 50 per cent. of water is added to wine that rarely contains more than 10 per cent., and never more than 12 per cent., of alcohol. This is the national drink of the sober French people. Not only men but women and children for hundreds of years have drunk these simple, cheap wines and the idea that any harm could result therefrom has never dawned upon them till foreign ingredients were added to the wine. An added alcohol, especially if not made from grape, might prove highly mischievous. Whatever the trade and the large owners of vintages may have done, the mass of the people realised that their prosperity depended on the purity of their produce. In 1904 a congress of agricultural labourers was held at Narbonne and they then asked that the law should protect them against employers who falsified the wine. The other day, in the French Chamber, the Deputy, M. Vaillant, who is a Member of the Royal College of Surgeons of England, moved a clause to the effect that if a labourer was dismissed because he refused to practise fraud in the making of wine his employer should be condemned to pay him an indemnity. The obvious moral of the present disturbance is the necessity of taking measures to insure that only pure wine shall be placed on the market. This will best serve the interests of honest growers in the wine countries and the cause of temperance throughout the world.

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[1] See THE LANCET, March 10th (p. 709), 24th (p. 855) and April 7th (p. 995), 1906.

THE AIR OF THE STOCK EXCHANGE.

IN busy times there can be no doubt at all that the air of the Stock Exchange is not fit for healthy men to breathe. We do not propose to penetrate into the recesses of "the House" to prove our words. That privilege might conceivably be denied us, but at least we are in possession of facts gained in quite another way which are of greater weight than chemical experiments relating to the impurities of the air, or even than bacteriological experiments recording the number and species of bacteria in the atmosphere of "the House" during or after a hard day's proceedings. Clinical experience is convincing in this matter and its teachings are that the air of the Stock Exchange must be both chemically and bacteriologically bad. If it were otherwise it would be difficult to account for the complaints of malaise, headache, depression, and a feeling of being "run down" which have reached us through medical practitioners who have amongst their patients men whose business it is to transact Stock Exchange dealings. Bustle is a necessary feature of this work and we learn through newspaper channels that frequently excitement runs high, that feelings are manifested in physical methods of expressing emphasis, and that there are much running about, shouting, shuffling of feet, and beating of tables, all of which form agencies favouring the distribution of disease-bearing materials. If there is a place which demands the very best that the science of sanitation and ventilation can afford surely it is the Stock Exchange. Yet we feel certain that the arrangements made in this great centre of financial transactions fall lamentably short of a sanitary standard and accordingly it must claim its victims to those diseases which are a corollary of inspiring air polluted with foul gases, human exhalations, and infected dust. The fatigued man is a poisoned creature, hence his fatigue, and only rest and good food and air can extricate him from his position. Fatigue is, of course, the normal sequel of hard work, but it may be abnormally rapid in following work which is done in an unhealthy environment. In that case fatigue becomes severe and is accompanied by marked symptoms of ill-health apart altogether from the question of the evils which arise from the invasion of pathogenic organisms. We counsel the members of the Stock Exchange to remind its managers of the necessity of setting "the House" in order from a sanitary point of view, so that, considering the special circumstances of the case, every step may be taken to secure a place of business for them which conforms to high hygienic requirements and which is not open to the reproach of lowering the standard of health of those who are bound to put in an attendance there.

AN APPEAL FOR UNIVERSITY COLLEGE HOSPITAL.

UNIVERSITY College Hospital has recently issued an appeal for more support based on the overwhelming argument that since the beginning of last year the committee has been forced to sell over £12,000 of stock to meet pressing tradesmen's bills. That there has been a strict economy exercised is proved by the fact that the average cost of occupied beds was reduced from £99 14*s.* 8¼*d.* in 1905 to £87 0*s.* 7¾*d.* in 1906. The committee especially appeals for further permanent endowment of beds and cots. It is to be hoped that so necessary an institution will not be forced to close any beds for lack of funds. The melancholy spectacle of idle wards, closed for lack of funds, may be seen in more than one London hospital which has perforce daily to refuse admission to cases for lack of accommodation, and we heartily recommend the latest appellant to the charitable to save it from the risk of a like sad necessity.

THE SANATORIUM TREATMENT OF PULMONARY TUBERCULOSIS.

WE have received a copy of a "supplemental report" of the medical officer of health of the Royal borough of Kensington (Dr. T. Orme Dudfield) on "The Prevention of Consumption and the Sanatorium Question." The report contains many features of interest but we think especial attention should be drawn to the proposal to utilise the "Southern Hospital" at Carshalton for patients suffering from pulmonary tuberculosis. This suggestion is well worthy of careful consideration. It is foolish to collect or otherwise to obtain funds for the erection of new buildings when those already built are suitable. Dr. Dudfield explains that the hospital to which he refers "is a very fine structure," and he adds that it "should be, seeing that it has already cost nearly a quarter of a million and that when equipped for use each of its 800 beds will have entailed an outlay not far short of £375." The hospital was handed over to the Metropolitan Asylums Board in the autumn of 1906 and was intended for patients convalescent from fevers and diphtheria. In November a special committee was appointed "to consider and submit a report as to the best use to which it can be put." Its report, submitted on April 27th, was to the effect that the hospital is not "required for the present." The site is a favourable one for the treatment of tuberculosis. The land lies high, the soil is chalk with a gravel formation, and the area is about 135¼ acres. A large amount of additional land is available should it be deemed advisable subsequently to form a "farm colony." Dr. Dudfield gives a brief description of the buildings. The unit of construction is a single storey double cottage, resembling two capital letters "L" joined together horizontally, the upright stroke representing (for each half cottage) the dormitory and the horizontal stroke the day-room. Each half cottage is constructed for 15 patients and is fitted with all requisite administrative conveniences, an airing court (with a southern aspect, 85 feet by 60 feet) lying between the two dormitories. Of these double cottages there are 24, arranged (*en échelon*) in three groups of four on either side of the central roadway, a "cottage staff block" being attached to each group. By reason of this arrangement sunlight in fine weather falls on every building from sunrise to sunset, no shadow being cast by any one building to the detriment of any other. The lighting, ventilation, and heating arrangements, says Dr. Dudfield, are all that could be desired. The roadways are made but the very ample spaces between the various buildings have not been laid out, and this work alone would occupy many patients for months Dr. Dudfield makes a suggestion which we think might well be considered by those whom it concerns—whether, as in the case of the Benenden Sanatorium, the hospital might not be made self-supporting by a charge for maintenance of, say, 30*s*. per week for each patient? "This for 800 beds would amount to a total of £62,400 (= ⅓*d*. rate), a sum which surely the great friendly societies could well afford to pay if they cared to secure the beds." Dr. Dudfield's report and suggestions should be made widely known and, as we have stated above, they merit close attention and consideration.

THE USE OF DRUGS IN BEVERAGES.

THERE is a curious species of drug habit (for we can call it by no other name) growing up amongst athletes and others made thirsty by drastic exercise which calls for comment. The monotony of drinks or the craze for something fresh no doubt accounts partly for this departure, but we feel sure also that a gradually increasing knowlege of drugs and their uses is a contributory factor. The layman learns that in certain circumstances bitters, for example, do good; they stimulate the nerves of taste and induce reflex effects which serve to aid the digestive process. Appetite is, in short, aroused and a zest for a meal is regarded as a sign of satisfactory health. The drinking of bitters, associated, unfortunately, as it always is, with alcohol in some form, thus easily becomes a habit. The choice of a "bitter" for the purpose is widening, so that now men may be found calling for soda-water and quinine, and the demand is not likely to be refused by the managers of a department which is profitable. Vermuth is the favourite with a good many and a considerable quantity is consumed at golf clubs, the drinker of it being quite unconscious of the fact as described in our text-books that oil of wormwood "is a convulsive poison." We may not unreasonably expect gentian, calumba, chiretta, and so on shortly to be added to these materia medica of the athletes' drinking bar. If this after all does not constitute a drug habit we are very much mistaken. In disease bitters are a powerful aid, for they are tonics, increasing appetite and encouraging the assimilation of food; in health they may easily prove to be mischievous and be productive of evil rather than of good; they will irritate the stomach and induce indigestion. The constant stimulation of healthy glands which act normally without, so to speak, any call for "whipping" must sooner or later lead to fatigue of the digestive organs which might easily bring with it a train of unpleasant symptoms indicating a lowering of the health standard. It is with bitters as with alcohol; both are drugs and the chronic and excessive indulgence in drugs does not, as a rule, help to maintain the normal vigour of the healthy body. When a man finds he cannot distinguish between use and abuse his safe course is to be abstemious.

INFANT MORTALITY AND HOME VISITATION.

THE town of Swinton in Yorkshire has recently taken steps to grapple with the problem of infant mortality which has assumed serious proportions in that locality. Dr. E. English, medical officer of health of Swinton, accordingly decided recently to start a system of house-to-house visiting and instruction of mothers in the principles of baby rearing. As a result of a public meeting, in which the importance of breast-feeding and avoidance of alcohol by nursing mothers was explained and the Huddersfield experiment described, about 20 voluntary workers gave their names to the medical officer of health. It was decided to form a Guild of Social Service to consist of ladies willing to visit among the poor, distributing cards with a few simple instructions regarding the care of infants. This guild held its first meeting at the council's offices last week when the township was divided into districts, each member undertaking a specified district. The president of the guild is the medical officer of health who will meet the workers twice a year and will notify the births to the honorary secretary. A noticeable feature in this scheme is that this work is carried on without any financial aid whatsoever. This is a point worthy of note to small townships which cannot afford the services of a fully trained and qualified health visitor. Another point to be commended to county councils which employ women lecturers on hygiene is the utilising of the services of these ladies to organise similar schemes in outlying townships and villages. We are glad to record the organisation of such public-spirited work and we trust that its success will be such as to induce other districts to follow this excellent example.

INJURY TO THE KIDNEYS DUE TO THE X RAYS.

ABOUT three years ago Albers-Schönberg showed that if the abdominal surface of male guinea-pigs or rabbits was exposed for a prolonged time to the *x* rays sterility but not impotency developed. This was due to azoospermia which was dependent on the disappearance of the epithelium of the seminiferous tubes. Subsequently he showed that the ovary was still more susceptible to the action of the rays. Then American writers, Dr. Tilden Brown and Dr. H. W. van Allen, found azoospermia in men engaged in *x* ray work.[1] The therapeutic action of the rays on the spleen and the lymphatic glands in leukæmia and lymphadenoma and other conditions is now well recognised. In the *American Journal of the Medical Sciences* for May Dr. A. S. Warthin has published an important paper on their action on the kidneys, a subject on which but little is known. In 1904 Linser and Baermann found that exposures of one hour produced transitory albuminuria without apparent changes in the renal epithelium. Dr. Warthin has found remarkable changes in the kidneys in two cases of leukæmia treated with the *x* rays. In one case of the myeloid type the leucocytes numbered 800,000 and the spleen was greatly enlarged. Exposure of the splenic region to the rays twice a week for two months produced great improvement. Daily exposures were then given for seven months and the improvement was so great that hopes of cure were entertained. The patient remained in a good condition for six months, although the leucocyte count was high and there was a large percentage of myelocytes. The treatment was renewed for seven weeks but the patient became worse and died. The necropsy showed changes characteristic of leukæmia only in the retro-peritoneal lymphatic glands. The viscera showed "slight parenchymatous degeneration." In the kidneys were remarkable changes. On cutting the kidney marked grating and resistance were observed. The cut surface showed numerous whitish streaks corresponding to the medullary rays and due to deposits of lime salts which filled the tubules and displaced the renal epithelium. The remaining parts of the parenchyma were atrophic and presented cloudy swelling and fatty degeneration. The intertubular connective tissue was increased and there were localised inflammatory changes throughout the cortex. When the lime salts were dissolved out the epithelium of the affected tubes was found to be completely necrosed. In the other case there was small-celled lymphatic leukæmia, and similar changes were found in the kidneys. Such changes do not appear ever to have been described in leukæmia untreated by the rays. In 25 cases of various forms of leukæmia Dr. Warthin examined the kidneys and found in all more or less extensive parenchymatous degeneration, leukæmic metastases, and localised inflammatory changes, but in none was there any deposit of lime salts or such extensive necrosis as in the cases reported. In another case recorded by Dr. Grosh and Dr. Stone of Ohio the renal epithelium showed advanced cloudy swelling, fatty degeneration, and simple necrosis. Dr. Warthin exposed white mice, rats, guinea-pigs, rabbits, and Belgian hares to the x rays. Small animals were placed entirely in the field of exposure; the larger ones were exposed in the abdominal region (including the spleen and kidneys). Exposure for from half an hour to an hour produced slight nuclear changes in the renal epithelium, swelling of the nucleus, vacuolation, and clumping of the chromatin. After from six to 12 hours there followed a secondary change characterised by albuminuria and cloudy swelling. Exposures of small animals for five hours were invariably followed by paralysis, coma, and death within ten days, a result evidently due to the effect of the rays on the nervous system. In these cases the renal changes were more marked; the renal cells were diminished in size and cloudy and the tubules were distended with an albuminous precipitate.

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[1] THE LANCET, April 8th, 1905, p. 945.

A COMMITTEE ON DISTEMPER IN DOGS.

THE President of the Board of Agriculture and Fisheries has appointed a committee to inquire into the nature of distemper in dogs in Great Britain and the methods of its infection and to report whether any, and, if so, what, preventive or remedial measures, exclusive of ordinary medical treatment, can with advantage be taken with respect to it. The committee is constituted as follows: Lord Middleton (who will act as chairman), the Duke of Beaufort, Lord Leconfield, Sir John McFadyean, M.B. Edin., M.R.C.V.S., Mr. Edward Barclay, Mr. Stewart Stockman, M.R.C.V.S. (chief veterinary officer to the Board of Agriculture and Fisheries), and Mr. William Musgrave Wroughton. Mr. James Ralph Jackson, M.R.C.V.S. (veterinary inspector, Board of Agriculture and Fisheries, 4, Whitehall-place, S.W.), will be secretary, and the cost of the inquiry will be defrayed by subscription and guarantees, no charge in respect of it falling upon public funds.

THE CARMICHAEL PRIZE ESSAY.

THE President and Council of the Royal College of Surgeons in Ireland give notice that on the first Thursday in November in the year 1908 they will proceed to adjudge a prize for the best essay that may be presented to them in accordance with the well-known instructions prescribed by their famous President, Richard Carmichael. These instructions were:—

> (1) The state of the medical profession in its different departments of physic, surgery, and pharmacy in Great Britain and Ireland at the time of the writing of these prize essays.
>
> (2) The state of the hospitals and schools of medicine, surgery, and pharmacy.
>
> (3) The state and mode of examination or of testing the qualifications of candidates of the different licensing colleges or corporations of medicine, surgery, and pharmacy.
>
> Under these heads the authors will be pleased to make such suggestions as may occur to them respecting the improvement of the profession, with the view of rendering it more useful to the public, and a more respectable body than it is at present. In these suggestions the authors will be pleased to consider the preliminary and moral education of medical and surgical students, as well as the mode of conducting their professional studies.
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> In considering the third head, or mode of testing the qualifications of candidates by the licensing bodies, the authors will please to consider the most practical mode of rendering the examination as demonstrative as possible—i.e., in anatomy, by having the dead subject placed before the candidate; in chemistry, botany, and pharmacy, specimens of minerals, plants, and pharmaceutical preparations placed before him; and in the practice of physic and surgery, the candidate to be placed before the patients in the wards of an hospital, as the testator is certain that this will afford the most certain and only true mode of ascertaining the qualifications of candidates.

Each essay is to be distinguished by a device or motto, and accompanied by a sealed packet, containing the name and address of the writer, also distinguished by the same device or motto, and must be lodged at the College on or before July 1st, 1908. The authorities of the College have decided that no essay shall exceed 65,000 words in length and all quotations shall be by reference to the volume and page of the work on which the passage desired to be quoted is to be found. The president and council of the College do not consider themselves bound to award the prize, which is of the value of £120, should none of the essays appear to them to possess sufficient merit.

LEAD COMPOUNDS IN YARN.

THE Home Office has recently issued a circular in which certain proposals are made in regard to regulations required to be observed in the process known as the "heading" of yarn dyed by means of a lead compound. "Heading" means the manipulation of yarn dyed by means of a lead compound over a bar or post and includes "picking, making-up, and noddling." The regulations are intended to supersede the existing special rules for factories or workshops in which yellow chromate of lead is used or in which goods dyed with it undergo the process of bundling, or noddling, or other treatment. The chief points in which the proposed regulations differ from the existing rules are as follows: (1) the application of the regulations is limited to the particular process in which the danger of lead poisoning has been found to be serious, as in the case of the "heading" of yarn which has been dyed by means of a lead compound; (2) the requirements in regard to exhaust ventilation for the removal of dust and to the provision of washing accommodation are made more precise; and (3) a periodical medical examination of persons employed on the dangerous process is established. These regulations are issued in draft form and are subject to further consideration, persons affected being invited to enter their objections, if any, within 40 days of the issue of the notice, which is dated June 22nd.

DERMATOLOGICAL SOCIETY OF LONDON.

THE amalgamation of many of the medical societies of London, desirable though it undoubtedly is in many ways, puts an end to the individual existence of the constituent bodies, and especially is this noticeable in those cases where two separate societies unite to form one section of the Royal Society of Medicine. The Dermatological Society of London has lasted almost exactly a quarter of a century, for it was founded in July, 1882, and it has come to an end in June, 1907. In several ways the society has been unique. It has never been a large body, for it has never, we believe, had 60 members; but they have all been men who have been greatly interested in diseases of the skin and the work that the society has done has been of great value. At the time when the society was founded dermatology in this country was in a very chaotic condition and the then new society soon began to bring order out of the chaos. From the first the rule was laid down that there should be no papers read at the meetings and the whole proceedings have always consisted in the exhibition of cases. In this way the society has been of very great educational value to its members, every one of whom has learnt much at the meetings where views were freely exchanged. Much of the present high position of dermatology in this country is owing to the work done by the society. Its original inception was due to Dr. J. H. Stowers who was then working in the dermatological department of St. Bartholomew's Hospital under Mr. Morrant Baker and to Dr. Alfred Sangster, and these were the original secretaries. At no time has there been a President; the chair at each meeting has been taken by one of the members of the Council present. To commemorate the society, as it was about to cease to exist, 18 of the members dined together on June 12th, when Mr. Jonathan Hutchinson occupied the chair, supported by Dr. H. Radcliffe Crocker and Dr. Stowers. Mr. Hutchinson gave an amusing account of the condition of dermatology when he first came to London n 1850. A general feeling was expressed that while all the members regretted the demise of the Dermatological Society of London they were looking forward hopefully to the dermatological section of the Royal Society of Medicine to carry on the good work initiated by the society.

EPIDEMIC CEREBRO-SPINAL FEVER.

DURING the last few days cases of epidemic cerebro-spinal fever have been reported at places in the counties of Northumberland and Durham. In Scotland during the week ended June 22nd there were five deaths from this cause registered in Glasgow, five in Edinburgh, one in Paisley, and one in Leith. In Glasgow the weekly report issued on June 21st showed that there were at that time 87 cases under treatment. In Belfast during the week ended June 22nd there were 20 deaths registered as being due to this cause.

"COMPOUND" OR "BLENDED" WHISKY.

THE Secretary of the United States Department of Agriculture has recently issued a bulletin dealing with the labelling of whisky under the new pure food law. The first aim of this law is to insure, so far as possible, that the purchaser of a food or drug shall obtain nothing differing from that which he wishes to buy. In a secondary way the law also seeks to prevent, or at least to discourage, the use of deleterious substances as food or drugs. Before expressing an official opinion on the labelling of different brands of whisky considerable attention is given to the etymological distinctions between the terms "compound" and "blend." Webster defines a "compound", as "that which is compounded or formed by the union or mixture of elements, ingredients, or parts; a combination of simples." According to the same authority a "blend" is "a thorough mixture of one thing with another, as colors, liquors, &c., a shading or merging of one colour, tint, &c., into another, so that it cannot be known where one ends or the other begins." Thus "blend" and "compound" are substantially synonymous terms when applied to mixtures of liquids in ordinary speech. But the pure food law establishes a distinction between them, based upon the character of the ingredients entering into the mixture, the word blend being defined in Section 8 as "a mixture of like substances, not excluding harmless coloring or flavoring ingredients used for the purpose of coloring and flavoring only." The opinion of the Attorney-General of the United States on the meaning of these words is that the terms "blend" and "blended" can be properly used only when a single substantive, either in the singular or plural number, need follow to designate the combination appropriately and adequately. Thus we can speak of a "blend of teas" or a "blended tea," but not of a "blend of tea and coffee." In applying these terms to whisky consideration is first given to a definition of the term "whisky" which has been approved by the United States Department of Agriculture. "Whisky is a distillate, at the required alcoholic strength, from the fermented mash of malted cereals, or from malt with unmalted cereals, and contains the congeneric substances formed with ethyl alcohol which are volatile at the ordinary temperatures of distillation and which give the character to the distillate." It is held that a mixture of two or more different whiskies, as thus defined, whether their differences arise from the character of the substances from which they were distilled or from their respective methods of distillation or even from their several ages and the environment in which they were kept subsequently to distillation, would be appropriately termed a "blend of whiskies," or "blended whisky," or "blended whiskies," provided that each article entering into the combination, standing alone, would be appropriately designated as "whisky." Further, the mixture of a spirit properly designated as "whisky" with another spirit, such as ethyl alcohol, which, standing alone, would not be properly designated as "whisky," must be labelled as a "compound" or as "compounded." This question has led to an animated dispute owing to the fact that dealers attach much importance to its settlement, involving, as it does, large pecuniary interests. With regard to a mixture of ethyl alcohol, either pure or mixed with water, with harmless colouring and flavouring agents intended to impart the appearance and flavour of whisky, it is held that the product should be labelled "imitation whisky." In conclusion, four specimen labels are given to designate (1) "straight whisky;" (2) a mixture of two or more "straight" whiskies; (3) a mixture of "straight" whisky and ethyl alcohol; and (4) ethyl alcohol flavoured and coloured, so as to taste, smell, and look like whisky. (1) "Semper Idem Whisky": a pure straight whisky mellowed by age; (2) "E Pluribus Unum Whisky": a blend of pure, straight whiskies, with all the merits of each; (3) "Modern Improved Whisky": a compound of pure grain distillates, mellow and free from harmful impurities; and (4) "Something Better than Whisky": an imitation under the pure food law, free from fusel oil and other impurities. It is assumed that both the whisky and the alcohol in the third specimen are distilled from grain. It remains to be seen whether judicial decisions will accept these interpretations, as stated so clearly by the Attorney-General.

THE TREATMENT OF INEBRIATES IN LONDON.

FROM the reply of the Home Secretary to a question put by Mr. Pickersgill, M.P., as reported in the column of Parliamentary Intelligence in our issue of June 15th, it appears that the Government is endeavouring to induce the London County Council to reconsider the decision taken by that body to terminate the arrangement by which habitual drunkards committed from the London police courts have been received into the certified reformatories of the National Institution for Inebriates. If Mr. Gladstone's efforts are unsuccessful and if the Council persists in the retrograde policy which it has adopted, the Inebriates Act of 1898 will, as regards its most important provisions, be reduced to a dead-letter. The Farmfield Reformatory, which is the sole institution of this kind maintained by the Council, can admit only an insignificant number of selected cases, so that in dealing with the bulk of the police-court recidivists, whose prolonged detention under reformatory treatment was the chief social advantage of the Act, magistrates will be forced to return to the costly and futile system of repeated short imprisonments. The immediate effect of this policy in London, where the convictions for drunkenness amount to considerably over a fourth of the total number in England and Wales, will be sufficiently serious, but its indirect influence will be perhaps still more deplorable. Apart from the check to the rational treatment of the inebriate which will necessarily follow from its abandonment by a body of the authority and repute of the London County Council, the operation of the Act in other parts of the country will be paralysed by the conversion of the metropolis into a place of sanctuary where the "drunk and disorderly" need fear no treatment more efficacious, and therefore from their point of view more objectionable, than the time-honoured "five shillings or seven days." It is difficult to suppose that the members of the Council who are responsible for this regrettable decision can have fully appreciated the effect of their action or that when it has once been made clear to them they can still maintain so unreasonable an attitude. Meanwhile it may not be out of place to remark that the episode teaches a very useful lesson for the future. This absurd difficulty would never have arisen if the Act of 1898 had been framed with a little more regard for the limitations of human nature. The legislature, by making over to the local authorities the duty of providing inebriate reformatories or subsidising the reformatories built by private enterprise, while at the same time it abstained from rendering the performance of this duty compulsory, practically put a premium on slackness. It expected that local authorities would undertake of their own free will to maintain out of the rates a class of social undesirables who would otherwise have to be accommodated in prisons supported at the expense of the State. That several county authorities should have had the altruistic enthusiasm needed to respond to this appeal is very remarkable in these days when the cry of the over-burdened ratepayer is loud in the land but it may be doubted whether such enthusiasm can be expected to last. It is to be hoped, at all events, that when the long-promised attempt is made to deal with the vagrancy problem by the method of labour colonies the experiment will not be rendered futile by any blunder of the same kind, and that if the State does not itself provide the funds for the maintenance of such colonies it will at least see that the local authorities who shirk their responsibilities shall not profit financially by their remissness.

THE SALE OF PROPRIETARY MEDICINES IN AMERICA.

IN an address recently delivered before the Medical and Chirurgical Faculty of Maryland Dr. George H. Simmons, editor of the *Journal of the American Medical Association*, dealt in an outspoken fashion with the modern development of the trade in proprietary medicines and the harm done thereby in the United States. This matter was referred to at some length in a leading article in THE LANCET of April 20th. One of the chief charges brought by Dr. Simmons against what he terms the nostrum evil is that a great deal of indirect advertising or advertising through the medical man himself is resorted to in order to push the sale of certain preparations. They are advertised solely in medical journals, but do not conform to the rule of the American Medical Association that such articles should not be labeled with the names of diseases in the treatment of which they are supposed to be employed. Dr. Simmons also insisted on the need for a clear statement as to the composition of any proprietary medicine. He concluded by announcing the forthcoming publication by the American Medical Association of a book in which will be printed trustworthy information in regard to non-official remedies. This book will be supplementary to the American Pharmacopœia and will include only proprietary articles and new drugs that are not in the Pharmacopœia. By open publication of this sort the association hopes to check the evils of self-drugging, but Dr. Simmons points out that without the aid of the medical profession all efforts will be in vain. The council of the American Medical Association is purely an advisory body and there is no law which will compel the manufacturing chemists to recognise its requirements. If, however, medical men will band together and lend assistance to the efforts of the American Medical Association to restrain, at any rate, the inordinate amount of proprietary medicines which is sold in the United States much may be done. Conditions in Great Britain in regard to proprietary medicines are somewhat different from those which prevail in America but the sale of such remedies is increasing by leaps and bounds in this country and perhaps a leaf might be taken with advantage from the book of the American Medical Association. As pointed out in THE LANCET of April 20th the general public need to be educated so far as quack medicines are concerned and the steps taken by the American Association tend in this direction.

THE Nettleship gold medal of the Ophthalmological Society of the United Kingdom has been awarded to Mr. J. Herbert Parsons, F.R.C.S. Eng., for his work, "The Pathology of the Eye." It will be remembered that we reviewed Vol. III., Part I., of this work in THE LANCET of Jan. 5th this year. This is the second award of the prize the institution of which we noticed in THE LANCET of Feb. 20th, 1904. In that year it was awarded to Mr. Priestley Smith, F.R.C.S. Eng. The medal is awarded for the best work on ophthalmology during the previous three years.

AT the next meeting of the Society for the Study of Inebriety, to be held in the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, on Tuesday, July 9th, at 4 P.M., Mrs. Mary Scharlieb, M.D., M.S., will read a paper on "Alcohol and the Children of the Nation."

THE annual prize-giving in connexion with the London School of Medicine for Women will take place on Thursday, July 4th, at 4 P.M., at the Royal Free Hospital. Professor W. Osler will present the prizes. Mrs. E. Garrett Anderson, president of the school, will be in the chair.

Dr. Edward Hallaran Bennett, whose death occurred on June 21st last in Dublin, had for a long time been in bad health. He was one of the best known and most scientific surgeons in Ireland and had been President of the Royal College of Surgeons in Ireland.

Dr. C. Theodore Williams, M.V.O., who, as we announced in THE LANCET of June 1st, 1907 (p. 1503), has lately founded a medical scholarship at Pembroke College, Oxford, his old college, has been elected an honorary fellow of that college.

THE INTRODUCTORY GRESHAM LECTURE.[1]

BY F. M. SANDWITH, M.D. DURH., F.R.C.P. LOND.,

GRESHAM PROFESSOR OF MEDICINE.

LADIES AND GENTLEMEN,—My first duty is publicly to express my heartfelt thanks to the Warden and Livery of the Mercers' Company and to the Gresham Committee for the great honour which they have recently bestowed upon me. And as I desire to follow, however unworthily, in the illustrious footsteps of the sixteen eminent professors who have preceded me in this office I think you will agree with me that I cannot do better than imitate those of them who began their course of lectures with an account of our noble benefactor, Sir Thomas Gresham. Unfortunately their orations have not been preserved, but with the aid of the "Life" by Dean Burgon, a late Gresham professor of divinity, and the interesting volumes in the British Museum written by Dr. John Ward, himself once professor of rhetoric in Gresham College, together with the manuscript notes with which he interleaved his own copy of the work, and with the help of other assistance, printed and spoken, I have been able to get some information about the founder of these lectures. And since it is mighty dull to expect a traveller to wander through a picturesque country without turning to the right or left and without occasionally deserting the high road to explore by-paths and alluring lanes, I have thought it well not to confine myself strictly to the life of Sir Thomas Gresham, but to try to give you also a faint picture of the times in which he lived.

The name of Sir Thomas Gresham (1519-1579) is one of the most illustrious memories of the City of London, and, living as he did during the reigns of four English sovereigns, Henry VIII., Edward VI., Mary and Elizabeth, he dates from the time when England was advancing to the proud eminence among nations which she has since maintained. Her progress was due to many causes and among them I may mention that commerce, the source of our national wealth, was then making great strides, the influence of printing was beginning to be felt, and all the arts of peace and war were being carefully promoted. In his country's prosperity Gresham took no mean part, for he was a statesman as well as a merchant. He lived for a short time at a foreign court as the ambassador of his Sovereign, and both at home and abroad he was the chosen companion and correspondent of the famous princes and nobles of his day. His ancestors derived their name from a little village in Norfolk where they had lived for many generations. We have some letters from his great-grandfather, dated from London in the middle of the fifteenth century, and bearing the seal of a grasshopper, the family crest, which you all know can to-day be seen as the weather vane on the top of the Royal Exchange. Sir Richard, the father of our founder, and his uncle, Sir John Gresham, were both knighted by Henry VIII. and were both raised to the proud dignity of Lord Mayor of London.

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[1] Delivered at Gresham College on May 14th, 1907

As early as the twelfth century Flemish weavers had settled at Worth-Stead, or Worsted, in Norfolk, a town which gave its name to the twisted yarn, and there they taught their trade to the English, who are still famous for worsted goods. In the time of Sir Thomas Gresham's father the wool trade with Flanders had attained its highest prosperity, which probably explains the connexion of this family of merchants with that country. Liberality and benevolence seem to have been characteristics of the Gresham family, for Sir John converted the family mansion at Holt in Norfolk into a grammar school and succeeded in obtaining from Henry VIII. the hospital of St. Bethlem. Sir John was repeatedly employed as the King's agent in Flanders and amassed a considerable fortune in trade. Young Thomas was apprenticed to him and later was made one of the overseers of his uncle's will. Besides many charitable bequests Sir John left £13 6*s*. 8*d*. to the Mercers' Company for a feast, desiring them after dinner to have his soul in remembrance with their prayers.

Sir Richard Gresham, the father of Thomas, became Lord Mayor in 1537 and was a friend of Cardinal Wolsey, to whom he lent money, and also of his successor, Thomas Cromwell. He was a gentleman usher extraordinary to Henry VIII. and at the dissolution of the monasteries by that monarch he obtained for himself no less than five successive grants of Church lands. He strongly advocated the construction of an Exchange, encouraged freedom of trade, and is said to have invented bills of exchange. Three of his letters written during his mayoralty exist, one of which is a remarkable petition to the King pleading the cause of the afflicted and the friendless. With great dexterity he urges the arguments most likely to have weight with the King and best calculated to secure a favourable result to his application. He writes that the poor, sick, blind, aged, and feeble persons, unable to help themselves, have no place where they may be refreshed or lodged until they be helped and cured of their diseases and sickness. "So it is, most gracious Lord, that near and within the City of London, be three Hospytalls or Spytells, commonly called St. Mary's Spytell (Bedlam), St. Bartholomew's Spytell, and St. Thomas's Spytell." He then begs that the King, as supreme head of the Church of England, should direct the mayor and aldermen of the City to have the order and government, both of all the lands and revenues belonging to the said hospitals, and of the ministers within any of them. He cleverly argues that the funds, instead of providing for a small number of canons, priests, or monks, who lived in pleasure, "nothing regarding the miserable people lying in every street," had better be employed in refreshing, maintaining, and comforting a great number of poor, needy, sick, and indigent persons; also that those diseased should be healed and cured of their infirmities, frankly and freely, by physicians, surgeons, and apothecaries, paid only for that purpose, and, finally, that all feeble persons not able to labour should be relieved and all sturdy beggars not willing to work should be punished. He well knew that the surest road to Henry's favour was a willing acknowledgment of his ecclesiastical supremacy and he had the satisfaction of seeing his petition granted, though it was not till the time of Edward VI. that the revenues of the city hospitals were confirmed. His petition, of which I have given you a short abstract in modern language, was probably the first appeal by a Lord Mayor for hospitals.

To-day we are accustomed in this country to a great number of well-appointed hospitals and asylums, every one of which is a credit to the British race; to a system of sick nursing which I can without hesitation say is the best in the whole world; to munificent donations, subscriptions, and legacies for hospital inmates; and last, but not least, to the charitable funds presided over by His Royal Highness the Prince of Wales and the Lord Mayor of London. But it may be instructive to turn aside for a few moments to consider what these three London hospitals were like in the middle of the sixteenth century. There were, and still are, five city hospitals, though only one of them remains on its ancient site, but Christ's Hospital, the well-known school for boys, and Bridewell, are foundations dating from 1553, after Sir Richard Gresham's death. In that year Edward VI. gave over to the city his palace of Bridewell, which stood on the spot where many of our early sovereigns had resided, to be used as a workhouse for the poor and a house of correction "for the strumpet and idle person, for the rioter that consumeth all, and for the vagabond that will abide in no place." This will remind you that the word "hospital" was originally used for a place benefiting any class of persons requiring public help, not necessarily for the sick and injured. The condition of these latter was surely unique towards the end of Henry VIII.'s reign. For the religious foundations, established by the piety of preceding centuries, had cared to some extent for the welfare of the needy, though their enemies vowed that most of the stewards lived rather for their own selfish pleasures. When the religious orders were ruthlessly swept aside and their revenues confiscated by the Crown numbers of cripples, lepers, lunatics, foundlings, and aged folk were cast into the streets to beg for their livelihood. Some, not unnaturally, added thieving to their methods of subsistence and forced their attention by many crimes upon the more respectable citizens, hence the petition to re-found the three existing hospitals and re-endow them with their own revenues.

St. Bartholomew's Hospital

This hospital dates from the Priory built by Rahere, the court jester, in 1102, near the three acres of "Smoothfield," now called Smithfield. Here Henry VIII. burnt the stubborn who denied his ecclesiastical supremacy, more than 200 Protestants perished at the stake in the time of Mary, and Elizabeth burnt some Anabaptists. Besides the sale of oxen, sheep, and pigs this was the great horse market of London. It was famous, too, for that great carnival called St. Bartholomew's Fair, and also for the Cloth Fair, the name of which still exists in an alley running by the side of the grand old Norman church of St. Bartholomew the Great. The rapacity of Henry VIII. caused the hospital to be separated from the Priory, and Dr. Norman Moore says that in 1546 the income of the hospital from its estates was only about £300 a year. But, as we have seen, the citizens petitioned the King against the destruction of the hospital and forced him to restore its estate. It was thus refounded in 1546 for 100 poor and sick and Henry VIII. vouchsafed to endow it from its former possessions to the extent of 500 marks per annum, upon condition that the citizens should be bound for ever to give a similar sum every year. The hospital was then made up of detached houses or groups of houses, intersected by narrow lanes or streets. It stood just outside the wall of London, for the country began at this time just beyond Smithfield, and though houses were beginning to be numerous along the line of Holborn, the green fields did not begin westward until the part was reached where the Gray's Inn-road now is. 12 honorary governors were appointed to manage the hospital and their duties were defined by orders and ordinances, at the end of which occurred these words: "And for your labours and pains ye shall be sure of the reward that God hath promised to all them that succour His members." A matron and 12 unmarried sisters were appointed at a total yearly salary of £78 10*s*. Very careful rules were laid down about their conduct; they were not allowed to leave the women's ward after the hour of 7 in the winter and 9 in the summer, except for some "great and special cause, such as the present danger of death or needful succour of some poor person," and they were warned as much as possible to avoid and shun the conversation and company of all men! Three surgeons, annually paid £20 each, were appointed to see the patients, to decide whether an applicant was curable or not, to the intent that no incurable cases should be admitted to the great let and hindrance of the curing and helping of many others. But at the same time no curable cases were to be rejected for fear of causing great slander to the hospital and the displeasure of God. They were commanded while dressing the patients' wounds to give them faithful and good counsel, advising them to sin no more and to be thankful unto

Almighty God for their present benefits. And above all things, the surgeons were to refuse all gifts or rewards for their services, though they were enjoined to make such offers known to the almoners of the hospital. The porter was told to put swearers or quarrelsome patients or those who refused to go to bed at lawful hours into the stocks after previous warning. Eight beadles were given various police duties, including that of preventing any sturdy vagabond from asking alms within the City of London or its suburbs. They also had to collect the children who had been deserted by their parents. The cost of the patient's diet was fixed at 2*d.* daily, but already the restored hospital was spending a little more than its income and appealing to the charitable for extra funds. When a patient was cured he was not allowed to leave the hospital until he could give thanks upon his knees to Almighty God, and the Hospitaller was to charge him to learn the set thanksgiving without the use of a book. He was then given travelling money and a passport and was expected to betake himself to his birthplace or to his latest residence.

St. Thomas's Hospital.

This hospital was originally dedicated to the honour of Thomas à Becket, the martyr of Canterbury. Though it had some early connexion with the Prior and Canons of a neighbouring religious establishment, St. Mary Ovarie, it was not till early in the thirteenth century that it became possessed of a regular annual revenue which enabled it to do beneficial work. It stood for more than six centuries at Southwark, on the site now occupied by the London Bridge Railway Station. The hospital was well placed to fulfil the charitable purposes for which it was intended, for as the road to Canterbury lay through London, and the only bridge over the Thames was in that neighbourhood, it was ordered by the Bishop of Winchester (Peter de Rupibus) that poor pilgrims to and from Canterbury should be permitted to lodge and board there for the night, and in the event of sickness or lameness should be hospitably provided for till their recovery, when they were to be furnished with alms and provisions to continue their journey. Moreover, there was an abundance of pure air and water, and the building was surrounded by high trees. In 1535 the annual revenue was £309, but three years afterwards, when it was surrendered to Henry VIII., as church property, its yearly income was only £266. At this time it merely consisted of a master and brethren and three lay sisters, who lived in the hospital, where 40 beds were made up for the poor and infirm, who were furnished with food and firing. Between 1538 and 1540 Henry VIII., after having been excommunicated by the Pope, is said to have suppressed no less than 645 monasteries and abbeys, 90 colleges and free chapels, and 110 hospitals of various descriptions. He thus turned adrift some 10,000 monks and nuns and annexed revenues amounting to £32,000 a year, besides the goods and chattels which were valued at £100,000 more. Soon after the seizure of St. Thomas's Hospital in 1538 the citizens of London purchased from the Crown some of its landed estates, producing about £160 annually. In 1551 they again purchased from Edward VI. the manor of Southwark, which included the site of the hospital. The building was then increased to 300 beds, and was reopened in 1552 as "The King's Hospital." The original names of the wards were Isaac, Jacob, Job, Tobiah, Noah, Jonah, King, Abraham, Lazarus, and Susannah. The wards varied in size from 15 to 30 beds. About a month before his death, Edward VI. incorporated by charter the Lord Mayor and Corporation of the City in succession as perpetual governors of the Royal Hospitals, and it was then that this charity received the name of St. Thomas the Apostle. The King at the same time liberally endowed the hospital with estates and presented it with linen from the churches. Southwark at that time was the aristocratic part of the metropolis, and mansions with large gardens probably extended along the river as far as Lambeth Palace. We know that near St. Thomas's were the palace and park of Charles Brandon, Duke of Suffolk, one of Henry's favourites, and this accounts for some names still existing in the Borough, such as Park-street and Maze Pond. The hospital was furnished by benevolent citizens, who gave feather beds, straw mattresses, sheets, blankets, linen and clothes for the inmates, who chiefly comprised wounded soldiers (from the wars in France), blind, maimed, sick and helpless sufferers. Similar officers were appointed as at St. Bartholomew's, the physicians and surgeons receiving £15 each per annum.

According to Mr. Benjamin Golding's "Historical Account" the patients proved difficult to manage, for they took every opportunity of escaping from the hospital to resume their old occupation of thieving. During Queen Mary's reign the citizens held aloof from religious politics and occupied themselves in framing rules for the newly endowed hospitals and in confirming their finances on a permanent basis. They dedicated a portion of the fines levelled on City merchants to the support of the hospitals. The governors consisted originally of aldermen, citizens, and freemen of the City, but it was soon found advisable to extend the dignity to other wealthy people. Every man, therefore, of rank and respectability became eligible for election to the General Court of Governors, after being duly presented and ballotted for. On admission he was expected to make a liberal gratuity to the charity, but it was at the same time understood that money alone would not procure a governor's staff, for the honour was dependent on recommendations of worth and public virtue. The governors possessed the power of inflicting punishments for the better regulation of the patients, and a whipping post and stocks were erected at the hospital. Also, it is said, that immoral women, after being cured of their malady, were privately whipped before they were discharged and were admonished to pursue a better course of life. I have laid some stress upon the religious atmosphere of this and other hospitals, and upon the attempts made to insure devout observance of religion from the patients, because these were by no means characteristics of the general populace at the time we are considering. For instance, in the first year of Mary's reign an Act of Common Council was found necessary to prevent people defiling St. Paul's Cathedral. It appears it was their habit to carry through the church great quantities of ale, bread, fish, meat, and other wares, while some of them irreverently led mules, horses, and other beasts through the building. The various chapels of the Cathedral were converted into warehouses for lumber, carpenters' shops, bakers' establishments, and even a playhouse! All this, as the Act says, was found to be very disturbing to Divine service.

Bethlem Royal Hospital.

The priory of St. Mary of Bethlehem, founded in 1246 by a Sheriff of the City, stood in the parish of St. Botolph without Bishopsgate and was spoken of as a hospital for lunatics as early as 1472. It was seized by Henry VIII. at the general dissolution of monkish houses, but in 1547 it was restored to the mayor and citizens of London as a royal foundation, from which time it again became a hospital for the cure of lunatics. The citizens found it absolutely necessary to confine the mad folk, especially those who had committed crimes, and its retired situation and its proximity to the City marked it out as a fit receptacle for these unfortunates. The patients were chained and exhibited like wild beasts to the public, while those who were partly cured were turned out with badges on their arms to wander and beg in the streets. Edgar, in Shakespeare's *King Lear*, was one of these "Tom-o'-Bedlams." The north side of the Great Eastern Railway station in Liverpool-street is built on the grounds of the original Bethlem Hospital. As the City grew the hospital was removed to the suburb of Moorfields in 1675. Even up to the year 1770 it derived a revenue of at least £400 a year from visitors who came out of curiosity to see the lunatics. This habit was then relinquished because, though beneficial to the funds of the charity, it was thought to counteract its grand design by tending to disturb the tranquillity of the patients! The Moorfields building was copied from the Château of the Tuileries in Paris, and Louis XIV. was so much offended at his palace being made a model for a lunatic asylum that in revenge he ordered a plan of St. James's Palace to be taken for offices of a very inferior nature (Bowen.)

After this long preamble we must return to our patron, Thomas Gresham. He was born in London in 1519, and sent to the University of Cambridge in his youth, where he was admitted a pensioner at Gonville and Caius College. As he was destined by his father and by family tradition to become a merchant it is suggested, not unfairly, by his biographers that he must have shown signs of uncommon ability to have been given the privilege of education at the University at a time when it was usually reserved for those who intended to enter the learned professions. His residence at Cambridge not only confirmed his attachment to the Protestant faith, but gave him a love of literature and of learned men which distinguished him throughout all his life. He was apprenticed for eight years to his uncle and in due time admitted a member of the Mercers' Company. When he was 32 years old King Edward's financial affairs had been so mismanaged that it became necessary to consult several merchants as to the best methods of extricating the King from his difficulties. Gresham was summoned among others and was eventually desired by the King and the Council to take the matter in hand and this necessitated his removal to Antwerp with his family. For many centuries English sovereigns had been in the habit of obtaining loans from opulent merchants in Germany and the Low Countries and of paying very heavy interest. It had therefore been the custom to keep a royal agent, sometimes called the king's merchant or factor, at a foreign court. His duties consisted in raising money for the King by private loans and in keeping the Privy Council informed of whatever was passing abroad, and he was not infrequently called upon to negotiate with foreign princes in the capacity of ambassador. To this office Gresham found himself appointed. It must be remembered that at this period the Low Countries were in the zenith of their prosperity. They yielded to no State in Europe in wealth and splendour and were unrivalled from the commercial point of view. They possessed numerous towns and villages, hamlets which were worth more than many cities in other countries, a soil thickly inhabited and cultivated to the greatest extent, an intelligent people excelling in every elegant and useful art, of which traces to-day remain in the schools of painting and in famous buildings. Antwerp had inherited the trade of Bruges and had become the centre of civilisation and the most conspicuous commercial capital in Europe, and at the time which we are considering it was no uncommon sight to see two or three thousand vessels at one time in the river Scheldt laden with merchandise from every quarter of the globe.

The English merchants were important enough to be given an official residence, where our ambassadors were entertained when travelling and whither the English residents habitually retired in times of danger. The most important article of traffic between England and Antwerp was cloth, and the other goods obtained from England were wool, lead, tin, many kinds of leather, including sheep skins and rabbit skins, beer, cheese, and Malmsey wine, then obtained by the English from Cyprus. The principal exports from Antwerp consisted of jewels and precious stones, bullion, quicksilver, silks, cloth of gold and silver, spices, drugs, sugar, cotton, linen, tapestry, hops, glass, salt fish, arms, ammunition, and household furniture. These brief lists show how highly civilised Antwerp was at this time. Gresham found means to raise the exchange between the two countries from 16 Flemish shillings for the English pound to 22 shillings, and he was thus able to discharge the King's debts, to render money plentiful and trade prosperous, while the credit of the English Crown became established on a firmer basis abroad than it had ever been before. Edward VI. was so sensible of the services thus rendered him that shortly before his death he bestowed upon him valuable lands and said, "You shall know that you have served a king."

Gresham was removed from his office after Queen Mary's accession, but was reinstated within a few months, in order to raise for the Crown £50,000 at 11 or 12 per cent. interest for one year. The Queen showed that her dispositions to him were very friendly, and he tells us that the lands which Mary granted him amounted, altogether, to the yearly value of about £200. He wrote from Antwerp to the Lords of the Council to say that news had reached that city of the birth of a young prince to the English throne, in consequence of which the great bell of the city was rung, the English ships in harbour fired joyous salutes, and the Regent of the Netherlands presented the English sailors with 100 crowns to drink the health of the royal heir. He then inquired anxiously whether the news were true, for he found it odd that none of the English residents had received any letter on the subject. The atmosphere of the English Court was for nearly six months in the greatest excitement and the undiagnosed dropsy of the poor Queen caused gossips to talk of nothing but midwives, nurses, and cradles. Certain loyal subjects even went so far as to describe the beauty of the newly born prince; among these were the authorities of Norwich Cathedral and the incumbent of St. Anne's church within Aldersgate. But by far the most extraordinary circumstance connected with this delusion is little known. There is in the State Paper Office, according to Dean Burgon, an original letter to Cardinal Pole, signed by Philip and Mary, announcing the birth of a prince. "Whereas it hath pleased Almighty God of his infinite goodness to add unto the great number of his other benefits bestowed upon us, the gladdening of us with the happy delivery of a prince." The date is left blank, but the letter is endorsed "29th May, 1555."

On Elizabeth's accession Gresham was confirmed in his post and again despatched to Antwerp to raise fresh loans on bonds guaranteed by the City and to buy ammunition, such as gunpowder, hand guns, pikes, daggers, and bow staves, besides coats and sleeves of mail and helmets. Before he left England he wrote to his new Queen a letter of advice on financial questions, recommending her, among other things, to grant as few licences as possible, to make as few debts as she could outside her own dominions, and last, but not least, to keep her credit, especially with her own merchants, "for it is they who must stand by you, at all events in your necessity." The paternal air with which this merchant of 39 years addressed his sovereign helps to show us the important position which he and others engaged in commercial pursuits had then obtained. The word mercer in ancient times meant any dealer in small-wares but as the commerce of this country became more extended the operations of the mercers assumed a more important character and the words mercer and merchant became nearly synonymous. Sir Richard Whittington was a member of the Mercers' Company and so was the maternal grandfather of Queen Elizabeth, and that great Queen herself honoured the mercers by becoming a free sister. It was during her reign that the mercers added rich silks to the woollen cloths which had up to then been their chief article of traffic. These silks were brought from Italy and sold in the Cheapside, St. Lawrence Jewry, and the Old Jewry.

At the end of 1559 two great honours befell Gresham: he was raised to the dignity of knighthood—a prouder distinction at that time than now—and after being furnished with the necessary letters of credence he was sent with the rank of temporary ambassador to the Court of the Regent of the Netherlands, who was then the Duchess of Parma, half-sister of Philip II. Northern Europe was in a condition of general unrest and Elizabeth's ministers were evidently anxious lest any alliance between Spain and France should cause a descent of combined troops on Leith, which was still in the hands of the French garrison, the remnants of the expeditionary force which had landed 11 years earlier to assist the Scotch in their quarrels with England. We had just made peace with France and had relinquished Calais, our last possession on French soil. The husband of Mary Queen of Scots had succeeded to the throne of France and the persecution of the Huguenots had already begun. Philip II. had replaced his father, Charles V., as sovereign of the Netherlands and had now retired to Spain to brood over his wrongs against England and to concoct, with the Inquisition, means for re-converting the Protestants of this country into Papists. The sails of the Grand Armada were already rising on his mental horizon. He was then on the eve of his second marriage with the daughter of Henry II. of France. He had made Spanish rule, with its accompanying inquisition, extremely unpopular in the Netherlands, where a handful of nobles were preparing for the open rebellion which culminated in the throwing off of the Spanish yoke and the establishment of a free, strong, and prosperous Commonwealth in the Low Countries.

Gresham found increased difficulties in exporting gold, gunpowder, and ammunition to the Tower of London, and in his letters urged great secrecy upon Lord Burghley; he also had to bribe the officials in Antwerp to get his goods safely on board. He duly reported to his chiefs that Philip was accumulating shiploads of gold and silver in Spain from the new world, and he points out England's unreadiness for the war which he foresaw must be coming. Among other things he advised the erection of gunpowder mills to prevent this country from being wholly dependent on foreign supply, and he emphasised the importance of keeping Her Majesty's ships and sailors ready armed for war. At one time he seems to have received information that an invasion of England might be expected any day and he recommends that special attention should be paid to the Isle of Sheppey, to Queenborough Castle, Dover and its neighbourhood, and Portsmouth and the Isle of Wight, for these were places where the French were most desirous to land. Spain was another quarter from which an attack might be expected and he emphasises the fact that Her Majesty's ships at Chatham had only five pieces of mounted cannon on shore to defend them. The relations between England and the Netherlands became more and more strained, but Gresham retired to live in London before anything like an open rupture took place. His business residence was in Lombard-street, which was then the handsomest street in London, and, like all other bankers and merchants, he kept a shop, and over his door was his crest, the grasshopper, by way of sign. Although he was a mercer and merchant-adventurer, his chief business was probably that of usurer, pawnbroker, goldsmith, and dealer in bullion. 10 or 12 per cent. was the customary rate of interest during the reign of Queen Elizabeth, and there was then no such thing as the modern banker, whose business is, of course, of quite a different description. I have purposely used the word *shop* because even to this day the word survives as the outer part of Child's well-known banking establishment to distinguish it from the inner counting-house and office. In such a shop as Gresham's all sorts of gold and silver vessels were exposed for sale, as well as ancient and modern coins, and at the period of his death a considerable portion of his wealth consisted of gold chains. It is an interesting circumstance that Lombard-street has retained both its character and its name for more than six centuries, and if you take the trouble to-day to count the banking houses you will find that there are more than a dozen in that short street. When the Jews had been dismissed from England they were succeeded by the Lombards, which was the general term for Italian merchants from the four republics of Genoa, Lucca, Florence, and Venice. In process of time they became the richest merchants and the greatest moneylenders in England. Various commercial terms in daily use remain with us as a legacy from them, such as debtor and creditor, cash, bank and bankrupt, &c. Perhaps I may also mention that the £ *s. d.* of constant use has its origin in the Italian words lire, soldi, and denari.

After his knighthood Gresham moved his residence to a more aristocratic locality and fixed on Bishopsgate-street, where he built himself a large mansion to which he gave the name of Gresham House. It was surrounded by spacious gardens and Stow says that it was built of brick and timber, not far from the fresh water conduit which was just within Bishop's Gate. He also says that there were in the street "many fair tenements, divers fair inns, large for the reception of travellers, and some houses for men of worship." On the other side of the street stood Crosby Place (now a restaurant), then inhabited by Alderman Bond who had just built a turret on the top of it. Outside Bishop's Gate was the town ditch, deprived of water, and a receptacle for offal, so that we can imagine the conditions of that day were highly insanitary. As now, there stood the small church of St. Ethelburga Virgin and also Little St. Helen's, so named because it belonged to the nuns of St. Helen, and here there were seven almshouses for the poor belonging to the Company of Leathersellers; and then came St. Helen's Church, or Eastminster, which mercifully escaped the great fire of 1666, and is therefore well known to you all.

Throughout the sixteenth century the plague, or black death, was a permanent form of disease on the European continent, and almost every year there was an epidemic of it in some country. In the summer of 1563 the malady was brought to London by our soldiers from Havre, and Gresham, with many others, fled with his family to his country house. The epidemic was enough to terrify the bravest, for about 1000 persons died every week, and even the Lord Mayor's banquet had to be given up. The old chronicles tell us that during seven months of that year no less than 23,000 persons died in London from plague alone. Stow says "the poor citizens of London were this year plagued with a three-fold plague; pestilence, scarcity of money and dearth of victuals: the misery whereof were too long here to write. No doubt the poor remember it; the rich by flight into the country made shift for themselves." The following year Sir Thomas Gresham lost his only son and determined to devote some part of his great wealth to building a burse at his own expense for the accommodation of London merchants, provided that a site could be found on which the edifice might be conveniently erected. For at least 300 years it had been the habit of merchants to assemble twice a day in Lombard-street, at noon and at six, for the necessary transaction of their business and here they were, of course, exposed to the inclemency of the weather among other inconveniences. As one of the contemporary writers said, they were more like a body of pedlars than respectable merchants. The spot selected was where the present Royal Exchange stands, and in order to clear the site some 80 houses were purchased by the citizens and then razed to the ground. The burse at Antwerp was taken as a model, the architect, many of the workmen, and some of the material also came from Flanders, and everyone worked with such expedition that the building was ready within two years. A little later Queen Elizabeth and her Court came one day from Somerset House, where she was then living, entered the City in state at Temple Bar, and passing through Fleet-street and Cheapside by the north side of the burse, through Threadneedle-street, she reached Sir Thomas Gresham's house in Bishopsgate-street where she dined. After dinner she entered the burse on the south side and inspected it thoroughly, and then she caused the burse by herald and trumpet to be proclaimed the Royal Exchange, and so to be called from henceforth. In less than 100 years this Exchange was totally destroyed by the Great Fire of London. Charles II. laid the foundation of the second Exchange the year after the fire, but this also was burned down in 1838. The third Royal Exchange was opened by Queen Victoria in 1844, and for the first time in history was covered in by a glass roof some 22 years ago, after a petition of the merchants to the Mercers' Company. Among the historical paintings which now adorn the ground floor of the building is one of Queen Elizabeth being received by Gresham on the day she christened the Exchange; this was painted by Ernest Crofts and presented in 1899 by the Mercers' Company.

The original Exchange had a huge grasshopper stationed over each of the four corners of the building, and this insect was also to be seen glistening on the summit of the square tower near the south entrance. There is evidence from many travellers that the building was the finest of its kind in all Europe. Pepys tells us in his diary that after the Great Fire had subsided the statues of the kings of England beginning with William the Conquerer were found to be displaced and only one statue remained in its niche—that of Sir Thomas Gresham. Stow says that the first Exchange obtained the name of "The Eye of London." The upper walk, or pawne, as it was called, was frequented by gallants and ladies of fashion, which will not appear so strange when it is remembered that at that time Barbican, the Minories, and the purlieus of Smithfield were inhabited by the chief nobility of the land. At the end of Elizabeth's reign there were complaints of the entrance to the Exchange being beset by "ratcatchers, sellers of dogs, birds, plants, trees, and other things, to the great annoyance and trouble of merchants, gents, ladies, and others" resorting there. Cornhill and the neighbouring streets were filled all day long with apple-women and orange-women who kept up a constant cursing and swearing against the unruly boys who never ceased shouting. Moreover, whenever there was to be any bull-baiting or bear-baiting the animals were brought in front of the Exchange and there proclamation was made by trumpeters of the hour when the performance would begin.

Sir Thomas Gresham died of apoplexy in 1579 and was buried in St. Helen's Church, where his tomb and memorial window may now be seen. I must reserve for a future lecture an account of the Gresham College which he founded.

THE FIRST REPORT OF THE ROYAL COMMISSION ON MINES.

THE Royal Commission on Mines was appointed on June 7th, 1906, to report on certain questions relating to the health and safety of miners and to the administration of the Mines Acts. The Blue-book which has just been issued as the first report of the Royal Commission is a valuable and interesting document. Owing to the number of questions referred to them and their importance the Commissioners at an early stage of their inquiry limited their investigation to two matters—viz., first the compulsory watering of roads in dry and dusty mines upon which they expect soon to be in a position to issue a statement; and secondly, the provision and use of breathing appliances in connexion with the question of facilitating the work of rescue in the event of an accident—which forms the subject of their first report. Breathing appliances designed to enable persons to remain in a poisonous or irrespirable atmosphere have long been in existence and were applied to practical uses in this country as long ago as 1881 when the "Fleuss" apparatus was employed in connexion with the explosion at Seaham Colliery, Durham. The question of the use of such appliances was referred to the Royal Commission on Accidents in Mines (1880–86) which recommended that arrangements should be made for the establishment of centres in mining districts where additional appliances for succour and relief and special appliances for exploring purposes should be maintained in an efficient condition. Nevertheless, little attention was given to the matter in this country for some years and mining engineers, on the whole, regarded discussion of their general introduction as of theoretical interest rather than of practical value. In 1900, however, an experimental gallery* for testing life-saving apparatus was constructed by Mr. Garforth at Messrs. Pope and Pearson's Altofts collieries, which was apparently the first of its kind either in this country or on the continent, its object being to accustom men to the use of the apparatus under conditions such as are likely to occur in the mines. In 1902 the first rescue station was instituted at Tankersley in South Yorkshire, and it is understood that steps are being taken to erect several similar stations in different parts of the country. On the continent breathing appliances have attracted greater notice and received more general recognition. Their provision is compulsory in Austria, while in Germany many of the larger collieries are supplied with them, although no Government compulsion exists. The matter has quite recently achieved general notice owing to the occurrence of serious explosions at Courrières in France, Wingate Grange in England, and Reden in Germany. The visit of the Westphalian Rescue Corps to Courrières drew public attention to the use of these appliances, and as a result a decree was issued in April of this year by the Minister of Public Works making the provision of breathing appliances compulsory in French coal mines.

In view of the practical importance of this question the Royal Commission carried out a series of chemical and practical tests under laboratory conditions of some of the better-known appliances. The experiments were made for the most part at the Lister Institute by Dr. A. E. Boycott on behalf of the Commissioners, one of whom, Dr. J. S. Haldane, was present at, and took part in, many of the experiments. The forms of appliances selected for investigation were two types of the "Pneumatogen," the "Draeger," the "Shamrock," the "Fleuss," an improved "Fleuss," the "Weg," and the "Aerolith." In principle these breathing appliances fall into one or other of four types—first, a helmet like the ordinary diver's helmet, through which a constant current of air is driven from a pump or compressed air reservoir connected with the helmet by a long length of hose. Such an apparatus obviously limits the distance to which the wearer can go, so that it would evidently be of but little value in rescue work. In the second type the wearer breathes into and out of a bag provided with means for absorbing the carbon dioxide of the expired air, oxygen being supplied from a steel cylinder in which it has been compressed. To this type the "Shamrock," improved "Fleuss," "Draeger," and "Weg" belong, the latter possessing an ingenious contrivance by which the rate of supply of oxygen is regulated to the rate of consumption. In a paper which we publish in this week's issue of THE LANCET Dr. T. Oliver refers to some of these appliances and gives an illustration of the "Weg" apparatus, with some interesting remarks on its use and application in rescue work. In the third type, to which the "Pneumatogen" apparatus belongs, the expired air passes through a cylinder containing super-oxide of sodium and potassium, which absorbs the carbon dioxide and at the same time liberates oxygen. In the fourth type the air is supplied to the wearer by the evaporation of liquid air, the "Aerolith" apparatus being the only one of this variety investigated.

The greater part of the Blue-book is occupied by the Appendix, written by Dr. Boycott, describing the various apparatus, and giving the results of his experiments with them. This appendix is illustrated by photographs and diagrams of the breathing appliances.

Some general considerations of practical importance precede the actual records of the experiments. The apparatus must be air-tight, especially if irritating vapours, such as thick smoke, have to be entered. The amount of oxygen required at rest is 0·3 litre per minute, that during severe exertion two litres per minute, while the activity of walking at the rate of three miles an hour necessitates rather more than one litre per minute. In all forms of the apparatus it is necessary to have a moderately distensible bag to breathe into and out of, as inspiration or expiration against even slight pressure is distressing. Dr. Boycott carefully describes each apparatus and records his experiments with them. He concludes his report with a general consideration of his results. He states that the small "Pneumatogen" (Type I.) apparatus is very light and portable and should be of great value for undertaking short journeys into bad air. The other appliances which are designed for longer expeditions and to enable severe muscular exertion to be undertaken he compares in a table from which it can be seen that although several of them are satisfactory in many ways there is room for improvement in all of them. To give examples, in only two of them, the "Fleuss" and the "Weg," is the gauge indicating the quantity of oxygen remaining in the cylinders visible to the wearer; in the improved "Pneumatogen" the lightness in weight (14½ pounds) is counterbalanced by the poorness of the supply of oxygen and by the resistance to breathing offered by the cartridges of peroxide of sodium and potassium. The "Shamrock," though in many ways well designed, is seriously at fault in regard to the absorption of carbon dioxide. The "Aerolith" affords no good indication of the amount of oxygen remaining for use and there is likely to be a difficulty in the supply of liquid air. The "Draeger" apparatus, though good in regard to the supply of oxygen and the absorption of carbon dioxide is heavy and badly hung and suffers from various minor, though probably remediable, defects. In view of these observations the Commission regards the general results as satisfactory and hope that the criticisms made will lead to improvements. The appliances are in the experimental stage and doubtless extended use will lead to practical advances, a fact already illustrated in the experience of Mr. Garforth with the "Weg" apparatus in the experimental gallery. The Commission is of opinion that the question is ripe for further development in this country and demands the serious attention of the industry. The Commissioners, while deprecating any exaggerated expectations as to the utility of such apparatus in saving life in mines, points out various circumstances in which they may prove to be of value apart from actual rescue work, such as rendering it possible to explore the seat of a gob-fire and to deal with it, which would otherwise be impossible, owing to the smoke, and in a report of a visit to the Westphalian coal-field it is pointed out that the pecuniary saving effected resulting from the use of breathing appliances in such matters has been an important factor in their general adoption. In regard to their use in rescue work after explosions, the Commission is of opinion that they can only play a subsidiary part but that this part may be of considerable importance, especially in facilitating exploration of the mine and reaching men overcome by "after-damp." It is recognised that their use is at present not entirely free from risk in inexperienced hands or when the necessary precautions are not taken, but the risks are less than those of ordinary rescue operations without such apparatus and they can be reduced to a minimum by proper training—a point upon which the Commission lays special emphasis. To this end it recommends the establishment of "central rescue stations" for the joint use of several neighbouring collieries, where selected men should be given thorough instruction in the construction and use of the appliances with practical experience of their use in experimental galleries, such as that made at the Altofts collieries. The Commission considered the question as to the desirability of rendering the provision of these appliances compulsory and it came to the conclusion that sufficient advance has not been made in this country to justify such a recommendation. It recognised the readiness of mineowners in the United Kingdom to adopt any precautions likely to lead to a diminution in the risk of mining. Such a view seems to us a wise one, for whereas compulsion would probably tend to perpetuate the experimental form of such apparatus, more especially if any particular form were recommended, private enterprise is likely to lead to improvement and advance, while public opinion would deal harshly with any mineowner who neglected to provide all the means in his power to safeguard his employees from risk.

The report, with its appendices, should prove of the greatest value, especially to mineowners and those engaged in working at the various forms of apparatus with a view to their improvement. It also forms an authoritative statement of the present position of matters in regard to the subject of which it treats.

DECENNIAL SUPPLEMENT FOR 1891-1900 TO THE SIXTY-FIFTH ANNUAL REPORT OF THE REGISTRAR-GENERAL.

Part I.

Among the various statistical contributions to State medicine periodically issued from Somerset House there is none that is looked for by our profession with greater interest than is the publication before us, which presents, in a concise and instructive fashion, the vital history of England and Wales in the decennium last ended.

The present supplement—which is the fifth of a series, the first number of which related to the ten years 1851–60, and was presented to Parliament in 1864—is divided into two parts; the first part relates to general mortality and its principal causes in the ten-year period ended 1900; whilst the second part, which is promised towards the end of the current year, will deal with the mortality of occupations as observed among the English people in the three years 1900–01–02.

The report before us is the work of Dr. John Tatham, of the General Register Office. Like its several predecessors, it appears in the form of a letter officially addressed to the Registrar-General. The volume contains a preface by Sir William Dunbar, transmitting the report to the President of the Local Government Board for presentation to Parliament.

Although particulars of English mortality in each year had been previously published in the Registrar-General's successive reports, nevertheless the present volume is very much more than a mere summary of those reports. For in its preparation the rates have been re-calculated on revised estimates of population based on the Census enumeration of 1901, and the mortality from various causes in 1891–1900 has been compared with that observed in corresponding periods in the latter half of the nineteenth century. Moreover, advantage has been taken of the Census results to construct two new English life-tables, both of which will be found in the present volume.

In spite of what has been termed the increasing "urbanisation" of the population in recent times the fact that the public health of the country has steadily improved since the passing of the first Public Health Act has been frequently commented on in the reports of the Registrar-General. But the completion of a half century affords a fitting opportunity for a retrospect of whatever life-saving has been achieved within that period. Nevertheless, Dr. Tatham prudently utters a caution against the tendency prevailing in some quarters to attribute to the results of sanitary administration alone the whole of the saving of human life which has undoubtedly taken place and which is represented statistically by a falling death-rate.

A novel feature in this report is the insertion of a series of carefully drawn charts which illustrate graphically the fluctuations of mortality through a long series of years, the curves having been based on the age and sex constitution of the population in 1901. From the first of these charts we learn that the death-rate of the English population in 1838 was 21·7 per 1000 living at all ages and of both sexes, whilst in 1905 the rate was 15·2 per 1000, a decrease of little less than one-third part in the course of that interval.

But even a cursory examination of the chart referred to and of the accompanying tables will suffice to show that the fall in the death-rate has not been by any means uniform throughout the last half century. In the course of that period very considerable changes have occurred in English mortality, and this not only at all ages in the aggregate but at almost every stage of life. For example, in the ten years 1881–90 the general mortality had been at the rate of 18·7 per 1000 living, whilst in the ten years ended 1900 the rate was 18·2 per 1000. Therefore, in the decennium last ended the fall amounted to less than 3 per cent., whereas in 1881–90 it it had been nearly 9 per cent., as compared with the rate in the decennium preceding that period. The foregoing are revised death-rates; the figures at all ages having been corrected for age and sex differences of the living may be accepted as approximately correct. But if we take an example from among the crude death-rates we find that, e.g., in the decennium 1841–50 the mortality, calculated without reference to the ages of the living, was in the proportion of 22·3 per 1000. Bearing in mind the extreme variations of mortality with age, it may be stated that if the number of the living at the several age groups had been proportionally the same in that decennium as they were in 1891–1900, the death-rate at all ages in the earlier period would have been 21·7 per 1000 instead of 22·9, the crude or uncorrected death-rate formerly published.

On comparing the decennium last ended with its immediate predecessor we find that the fall in the death-rate has been shared by both sexes, the rate for males at all ages having fallen by 2·4 per cent. and that for females by 3·4 per cent. Except among old people and young children there has been a decrease of mortality at all stages of life. But it is a significant fact that the decrease in the mortality of young children, which had continued throughout the previous 20 years, has given place to an increase, although of small amount, in the decennium last ended.

For the purpose of estimating the effect of changes of mortality at different ages in successive periods of time the life table method is now generally accepted as the most trustworthy. Accordingly, two new life tables have been constructed for the present report—the one based on the mortality of England and Wales in the ten years 1891–1900, and the other on the mortality in selected health districts in the same period.

The construction of life tables is attended with some difficulty. If it were possible to obtain, in addition to the number of births, an accurate record of the numbers reaching certain stated ages, it would be a simple process to calculate the chance of living from any one age to any other—as, for example, from the beginning of one year of life to the beginning of the next; and these chances or probabilities of living one year would constitute a set of fundamental values from which the other details of the life table could be readily obtained. Such data, however, are not available, so that it is necessary to resort to the population and deaths tabulated in groups of years of life in order to calculate the chance of living one year. A further difficulty arises from the mis-statements of age that are known to exist both in the Census returns and in the death registers. The nature and extent of these mis-statements are fully discussed in the general report of the last census. Probably the causes tending to produce mis-statements in the Census returns may tend in some degree to similar mis-statements in the death registers. A common source of error—that of stating ages in round numbers or in multiples of ten years—can be overcome by grouping the data in periods of life of which these round numbers are the centres. From a very early date this method, which eliminates much of the error due to mis-statement of age, has been adopted in the annual reports of the Registrar-General. Other errors doubtless exist—such as those due to the statement of age at the next birthday instead of that at the last birthday, to over-statement of age in the case of old people, or to inaccurate statement in the case of persons at earlier ages; but the elimination of such errors cannot be effected with certainty.

In this report the changes of the death-rates in recent decennia are shown for males and females separately. Compared with 1881–90 there was an increase in the last decennium of nearly 2 per cent. in the mortality of children of both sexes under five years, as well as a slight increase among males, aged from 55 to 65 years, and among females, aged from 65 to 75 years. At all other age-groups the death-rate has declined, the decrease being especially marked in the age-group from 5 to 35 years. The net result of these changes is a reduction of 2·4 per cent. in the male and of 3·4 per cent. in the female mortality, computing the rate at all ages in the preceding decennium according to the age constitution of the mean population in 1891–1900.

The *life tables for males show that according* to the mortality of 1838–54 a million males born would be reduced to half a million in the forth-fifth year of life; by the table for 1871–80 this amount of reduction is not effected until the forty-eighth year; and, by the table for 1881–60, not until the fifty-second year. By the new table the same amount of reduction is reached in the fifty-third year of life. At the end of the first year of age the survivors are fewer by the new table than by any of the previous three tables. This follows in consequence of the increased infantile mortality in the recent decennium, to which further reference is made at a later stage of the report. At ages after the first year the mortality declines considerably and from the eighth to the twelfth year of life the survivors by the new table slightly exceed the survivors by the table for 1881–90. From age 12 to age 24 the survivors by the new table are somewhat fewer than by its predecessor, but from age 25 onwards the survivors by the new table are again in excess. By the new table the average lifetime of males, or the mean expectation of life at birth, is 44·13 years; this is 4·22 years more than in 1838-54, 2·78 years more than in 1871-80 and 0·47 year more than in 1881-90.

The life tables for females show that whilst by the three earlier tables a million female children were reduced to half a million in the forty-seventh, fifty-third, and fifty-seventh year, respectively, that amount of reduction by the new table was not reached until the fifty-eighth year. As in the case of males, the survivors at the end of the first year of life are fewer by the new table than by either of the previous tables. They are likewise fewer than in 1881-90 until the twenty-fifth year, after which they are in excess at every age.

The expectation of life at birth, which by the three preceding tables had been 41·85, 44·62, and 47·18 years, is increased by the new table to 47·77 years. There is, therefore, an addition of 0·59 year of life owing to the lowered rate of mortality in the recent decennium. At the end of the first year the addition amounts to 1·29 years, at the end of the second year to 1·16 years, and at the end of the third to 1·03 years. After this age the excess falls, until it is only four-fifths of a year at ages from six to eight years, when it again rises, and exceeds one year at ages 14 to 20. It then gradually falls until at ages from 55 to 70 years the expectation is practically the same by both tables. After age 70 the expectation in 1891-1900 is again in excess by amounts increasing gradually with the advance of age. Here also the remarks as to faulty statements of age apply equally as in the case of males.

(To be continued.)

MEDICINE AND THE LAW.

The Diagnosis of Pathological Drunkenness.

A CASE tried last week at the Old Bailey, in which Mr. Justice Bigham imposed the extremely lenient sentence of three months' imprisonment on a man who had attempted to murder his mistress in what he alleged to be a state of alcoholic automatism, illustrates very strikingly the tendency apparent in forensic practice of late years to depart from the stricter rule formerly enforced and to recognise that the mental state of certain drunken offenders may properly be regarded as a condition qualifying the degree of their criminal responsibility. Ordinarily, as in the case just referred to, this question arises in connexion with the peculiar dreamy state which is induced by alcohol in certain predisposed individuals, and which has many analogies with the disorder of consciousness often observed in epileptics as the sequel or the equivalent of a convulsive attack. The diagnosis of this condition, when due to an abnormal reaction to alcohol, is frequently a matter of some difficulty, for an individual in the dream-state may show very little evidence of mental confusion, so that it may readily happen that such incoherence as he does exhibit will be set down to the influence of a moderate degree of normal intoxication and his subsequent profession of loss of memory will be received with incredulity. On this account much interest attaches to the alterations of the reflexes, which have been recently described as characteristic of pathological drunkenness. According to Hans Gudden (*Neurologisches Centralblatt*, No. 23, 1900), whose views have been confirmed by other observers, in a large proportion of cases during the phase of alcoholic automatism there is a loss, or a very marked diminution, of the pupillary reaction to light. It is true that a similar alteration of the light reflex is met with also in profound degrees of ordinary intoxication, but this circumstance hardly detracts from the value of the sign, since it is with the slighter and not with the more pronounced conditions of normal drunkenness that pathological intoxication is liable to be confounded. Of possibly greater importance, because apparently of more constant occurrence, is the alteration of the deep reflexes, which has been described by Kutner. In a series of observations published in the *Deutsche Medizinische Wochenschrift* of July 14th, 1904, he has found that the knee-jerk and the reflexes of the triceps and the tendo Achillis are lost or greatly diminished in the alcoholic dream state and that there is also a marked decrease of muscular tones expressed in an abnormal degree of passive mobility of the limbs. After the deep sleep which, either naturally or as a result of the administration of sedatives, ordinerily terminates this phase of disordered consciousness, the reflexes regain their normal activity or are somewhat increased. It is to be noted, however, that in all Kutner's patients an epileptic tendency constituted the special predisposition to pathological drunkenness, and further evidence is therefore needed before we can be sure that a like condition of the reflexes is found also when the abnormal reaction to alcohol depends upon other causes. In any case the positive value of these signs is sufficient to suggest the desirability of an examination of the reflexes in all cases where a person accused of serious crime possibly connected with drunkenness is seen immediately after the alleged offence.

The Legal Rights of Unborn Children.

The general rule of law is that a possible interest of an unborn child is safeguarded. The application of this principle usually arises in the administration of an estate where a husband or father dies leaving a female beneficiary *enceinte*. Occasionally in this connexion exceptional circumstances arise and have to be dealt with by the courts. Thus in September, 1902, in a Canadian court the mother and her unborn child were given equal interests in an insurance fund which vested on the decease of the husband. Several similar cases have arisen under Section 7, Subsection 2, of the Workmen's Compensation Act, 1897, where a workman has died leaving his wife with a claim under that Act. In February, 1904, in the case Sarah Day *v.* Guardian Assurance Company, tried at Boston County Court, the judge directed that an equal part of the compensation fund should be deposited in a bank for the benefit of the expected child, for it was to be regarded as being dependent on the income of the deceased; further, if the child were not born alive the whole fund was to be payable to the widow. The following are the facts of another case which has recently come before the Master of the Rolls and two other judges in the Court of Appeal. The case is cited as *Margaret Williams (widow) v. Ocean Coal Company, Limited*. The deceased was a quarryman who for long intervals lived away from his wife. The couple met for a short time on Dec. 21st, 1905, and as a result a girl was born on Sept. 21st, 1906, several months after the husband had died. The county court judge at Pontypridd, sitting as arbitrator under the Workmen's Compensation Act, 1897, decided that on the facts produced the wife, and hence *a fortiori* the posthumous child, were not dependent on the deceased man. This decision was reversed upon appeal, where it was held by the three judges not only that the widow had been technically dependent but also that a posthumous child is also a dependent upon the earnings of a workman within the meaning of the Act. This is a point in clinical jurisprudence which it may be useful for medical practitioners to recollect.

BRITISH MEDICAL BENEVOLENT FUND.

AT the recent monthly meeting of the Committee 15 applications for assistance were considered and grants amounting to £155 were voted in relief. It was decided that in future the monthly meeting should be held at 4.30 in the afternoon instead of at 4 o'clock as in the past. Appended is an abstract of the cases which were helped.

Daughter, aged 61 years, of late M.R.C.S. No income; endeavours to support herself by needlework but is in very indifferent health and has injured her right arm. Relieved 15 times, £116. Voted £12.

Widow, aged 35 years, of M.B., C.M. Edin. Quite unprovided for at recent death of husband after an illness of many months' duration which exhausted his savings. Two children, aged 16 and 11 years. Voted £12.

Widow, aged 60 years, of L.R.C.P., L.R.C.S. Edin. No income; has endeavoured to support herself by taking boarders, but now, owing to failing health, is dependent on a daughter who is an elementary teacher. Voted £10.

Daughter, aged 45 years, of late M.R.C.S. No income, and health so bad that regular occupation is impossible. Voted £12.

Daughter, aged 39 years, of late L.R.C.S. No income; unable to make any attempt to earn a living on account of permanent ill-health. Dependent on mother whose income is so small that necessary nourishment cannot be provided. Relieved six times, £50. Voted £12.

Daughter, aged 55 years, of late L.R.C.P., L.S.A. Mental condition prevents employment; has been supported hitherto by a sister who has to earn her own living and whose health is now broken down. Relieved twice, £20. Voted £12.

Widow, aged [illegible] years, of L.R.C.P., L.M. Edin. No income; endeavours to maintain herself by letting lodgings. Children unable to help. Relieved nine times, £105. Voted £10.

Widow, aged 44 years, of L.R.C.P., L.R.C.S. Edin. No income; slight help from children; has just opened a small school. Relieved three times, £36. Voted £12.

Widow, aged 46 years, of L.R.C.P., L.R.C.S. Edin. Only income £20 a year. Six children, four being partially dependent and the others unable to help. Relieved four times, £40. Voted £10.

Daughter, aged 47 years, of late M.R.C.S., L.S.A. No income; suffers from a severe form of epilepsy and consequently unable to follow any employment. Relieved four times, £48. Voted £12.

Widow, aged 56 years, of M.B., C.M. No income; earns a little by needlework and is assisted by only son earning less than £1 a week Health indifferent. Relieved four times, £48. Voted £10.

Widow, aged 55 years, of L.R.C.P., L.R.C.S. Irel. Since husband's death has partially supported herself by maternity nursing but is now nearly blind and has no means whatever. Relieved 13 times, £113. Voted £12.

Daughter, aged 66 years, of late M.R.C.S. Only income a pension of £20 from the Royal Hospital for Incurables; endeavours to supplement this by letting lodgings but has had her rooms empty for some time and is consequently in arrears for her rent. Relieved eight times, £73. Voted £5.

Widow, aged 59 years, of M.D. Edin. No income; lets lodgings but has been very unsuccessful lately. Children unable to help. Relieved three times, £36. Voted £12.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 27th, 1829.

PRESERVATION OF LEECHES IN WINTER.

THE following singular plan is adopted among the Siberian tribes of Russia for preserving leeches during the winter season. If the statement in which the account is given (*Graefe's Journal*) be correct, and the authority is high, the mode appears, as far as practicable, to be worthy of imitation, as so much complaint is made of the difficulty it is intended to obviate. In October, a pit is dug, in marl or clay, in the open air, and the sides and bottom are made perfectly hard and smooth; it is then filled with fresh river water, the leeches are placed in it, and the whole mass of water is allowed to freeze to solidity. Whenever any of the leeches are required, a piece of ice containing them *is chopped out of the pit*, and is allowed to thaw gradually in a cool place. The leeches do not injure by this freezing, but will bite with greater readiness than those kept in a room during the winter.

SINGULAR TREATMENT OF TETANUS.

THE following extraordinary practice for the cure of this disease prevails amongst the inhabitants of the Tonga or Friendly Islands in the South Pacific Ocean, among whom it is said, that traumatic tetanus prevails to a great extent. It consists in producing a considerable degree of irritation in the urethra, and discharge of blood, by the introduction of a reed of proper size, for some distance into the canal, and, when the case is very violent, a cord is passed along the urethra, and carried through the perineum. The two ends are then occasionally pulled to and fro, inducing great pain, and a copious hæmorrhage, with much swelling and inflammation of the penis. Two cures of confirmed tetanus are related by a gentleman of the name of Mariner to Professor Chapman of Pennsylvania, as having been performed by this strange and unpromising practice. The mode may suggest a principle capable of improvement.

ROYAL DENTAL HOSPITAL.—At the London School of Dental Surgery in connexion with this hospital a series of post-graduate lectures will be given during the months of October, November, and December, on Mondays, at 5.30. The following is the schedule. Oct. 21st and 28th: Recent Views on Immunity in Relation to Dental Disease, J. H. Mummery. Nov. 4th and 11th: the Retention of Dentures in Difficult Cases, E. Lloyd-Williams; Nov. 18th: the Movements of the Mandible, their Relation to the Production and Treatment of Abnormal Articulation of the Teeth and to the Articulation of Artificial Dentures, W. H. Dolamore; Nov. 25th: the Treatment of Superior Protrusion, J. F. Colyer. Dec. 2nd and 9th: the Etiology of Palatal Deformities, J. G. Turner. The fee for the course is £2 2*s*., but past and present students of the hospital and internal students of the University of London will be admitted free. Further particulars can be obtained on application to Mr. J. F. Colyer, the dean of the school at the hospital.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

The City of Cardiff.—Dr. Edward Walford embodies in his annual report an account of the sanitary condition of the 37 elementary schools in this city. Such schools together provide accommodation for 34,443 scholars and the sanitary condition under which the children are housed, embodying, as it does, questions relative to the admission of adequate light and fresh air as well as freedom from unwholesome conditions generally, is obviously a matter of supreme importance from a civic and a national standpoint. The inspection of these schools was commenced in 1905 and the action which has been subsequently taken in consequence of that inspection has resulted in great improvements being carried out. So satisfactory, indeed, were these results that a weekly inspection is now made by the medical officer of health and a report thereon presented monthly to the corporation. During 1906, 1482 scholars were excluded from school in connexion with infectious diseases, but no schools were closed. Dr. Walford is apparently in favour of the exclusion from school attendance of very young children and he thinks that by their exclusion some of the overcrowding which occasionally occurs in the class-rooms of the older children might be avoided. He recognises, however, the fact that in the poorest districts of the town the children are under worse conditions at home than they would be at school. Apparently, the education committee of the Cardiff corporation does not propose at present to undertake the medical inspection of scholars, although Dr. Walford draws attention to the necessity for investigation as regards the special senses, the condition of the throat and air passages, of the glands, and of mental capacity. In our view the organisation of such medical inspection should be carried out by medical officers of health, but it is clear that in the circumstances which obtain in populous places the medical officer of health would have neither the time nor the special knowledge for the actual work of inspection. Such inspectorial work might well be divided amongst the local medical practitioners, each officer working under a definitely arranged scheme making for uniformity of methods and classification in the several schools. Voluntary notification of pulmonary tuberculosis has been in operation in Cardiff since 1901, and in 1903 a woman inspector was appointed to visit all the cases notified and to report to the medical officer of health upon a printed form. Dr. Walford speaks in favourable terms of the work, as only such cases are notified as in the opinion of the attending practitioner are likely to benefit by the visitor of the sanitary authority. During 1906 there were 141 notifications of pulmonary tuberculosis and the disinfection of premises and articles was carried out by the sanitary authority in 128 instances. There were 222 deaths from pulmonary tuberculosis during the year. The infantile mortality in Cardiff during 1906 was 154 per 1000 registered births, the rates in the several wards having ranged from 86 to 189. While the general death-rate during the last 50 years has fallen from 22 6 to 15·2 per 1000 the infantile mortality shows but a slight decrease. But even this slight fall is encouraging as compared with the conditions obtaining in our urban districts generally. As Dr. Walford observes, the infantile mortality in this country compares unfavourably with that obtaining in Scotland and Ireland as also with that in Denmark, Norway, and Sweden. The evidence, in fact, suggests that the segregation of the population in large towns, especially manufacturing towns, is a very prejudicial influence as regards infantile mortality, conducing as it does to the diminution of breast-feeding and the employment of condensed milk and other foods.

The City of Westminster.—Dr. F. J. Allan furnishes in his current report a good illustration of the now well-known manner by means of which unrecognised cases of infectious diseases are responsible for the spread of such diseases. An outbreak of diphtheria occurred in a certain school in Westminster and the circumstances attending the outbreak suggested that the retention of infection in the throats of children otherwise just recovered from an attack may have been responsible for re-introducing fresh infection into the school and it also appeared from the distribution of the cases in two classes in the girls' department that proximity in the matter of seating may have been a determining factor in the spread of the disease as it was found that 13 out of 17 children attacked sat next to one another in class. As, however, there were only 29 girls in one class and 22 in the other, it is clear that on the basis of probability there must have been some infected children sitting near to one another. However, this proximity has been observed in other school outbreaks and there is probably ground for the opinion expressed by Dr. Allan. In order to assist in reducing the infantile mortality obtaining in this district the City of Westminster Health Society has arranged with certain general and lying-in hospitals in Westminster by which it is supplied from time to time with lists of impending maternity cases, and the health visitors are by this means enabled to visit the potential mother prior to confinement. Subsequently to confinement a monthly visit is paid during the first three months and afterwards quarterly. Dr. Allan quotes from the report of the health visitors which was drawn up after 400 cases had been visited. It is stated that out of 400 births 120 of the mothers had some occupation which necessitated the premature weaning of the *offspring*, and the following table purports to put the case statistically and to show the advantage *quâ* survival of being born of a non-working mother.

	Death-rate per cent.	Delicate infants per cent.
Working	9·1	25
Non-working	7·5	8·2

Among 282 breast-fed babies there were 18 deaths as against 14 deaths among 100 bottle-fed infants. As regards the health of the mothers themselves it was found that 60 suffered more or less from ill-health or general debility, a circumstance for which the strain of pregnancy and lactation was largely responsible. Drink or poverty was not frequently assigned as the cause of maternal ill-health. Nor did insufficient food during pregnancy appear to have promoted the observed condition. In the opinion of the visitors, ignorance, lack of cleanliness, and irregularity of feeding and of habits were the principal causes of infantile ill-health and death. In this connexion it may be mentioned that an infants' hospital has been established in Vincent-square, Westminster, its object being to carry out the study and treatment of infantile malnutrition and to afford medical practitioners and medical students an opportunity for detailed study of the factors governing infantile nutrition. Certainly, this hospital, if it carries out its programme, should do some useful work. Pulmonary tuberculosis is notifiable in a voluntary sense in Westminster, and Dr. Allan furnishes some instances where infection may have been contracted from a relative. Having regard, however, to the recent report of the Royal Commission on Tuberculosis, from which Dr. Allan quotes, it does not follow that a tuberculous relative was in actual fact the source of a child's infection; tuberculous milk of bovine source may very well have been the cause of both cases, and the interval between the two attacks an illustration of latency. During 1906 there were 76 notifications of pulmonary tuberculosis received.

Borough of Portsmouth.—At the beginning of 1906 the water supplied to Portsmouth by the water company evinced considerable cloudiness, indicating apparently that in times of heavy rain the water, which is, it seems, derived from springs, carries with it considerable material in suspension. The precise source of this opacity is not dealt with in the report before us, but the presence of vegetable matter is clearly an indication of the desirability of filtration, more especially as the springs are, we believe, not far distant from the town of Havant. An Act has, therefore, been passed which enacts *inter alia* that the company shall forthwith commence filtration works. The filtration clause is not to apply to water "drawn from borings or wells or adits driven therefrom," a proviso which seems to suggest that some of the cloudiness which has been observed in the water on several occasions may be due to surface washings or, at any rate, to water from the superficial strata Otherwise it is difficult to understand the *exemption* referred to. Possibly, however, the chalk hereabouts is so well covered with impermeable strata that if the upper portion of a well is properly protected from surface pollution the risk of specific contamination is regarded as negligible. In any circumstances the medical officer of health is to be congratulated on having, after some years of fighting, succeeded in providing for filtration.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8753 births and 3915 deaths were registered during the week ending June 22nd. The annual rate of mortality, which had steadily declined from 17·9 to 13·1 per 1000 in the previous 11 weeks, further fell to 12·7 in the week under notice. During the first 12 weeks of the current quarter the death-rate has averaged 15·3 per 1000, the rate in London during the same period being 14·8. The lowest annual death-rates in the 76 towns during the week were 5·7 in Croydon, 7·0 in Hastings, 7·5 in Hornsey, and 7·6 in East Ham and in Kings Norton; the highest rates were 18·5 in Grimsby, 20·5 in Middlesbrough, 20·6 in Oldham, 20·9 in Huddersfield, and 24·1 in Wigan. The 3915 deaths in the 76 towns showed a further decrease of 111 from the numbers in recent weeks, and included 365 which were referred to the principal epidemic diseases, against numbers decreasing from 510 to 430 in the five preceding weeks; of these, 139 resulted from measles, 104 from whooping-cough, 53 from diarrhœa, 32 from scarlet fever, 27 from diphtheria, and 10 from "fever" (principally enteric), but not any from small-pox. The deaths from these principal epidemic diseases were equal to an annual rate of 1·2 per 1000, the rate from the same diseases in London being 1·3. No death from any of these epidemic diseases was registered last week in Southampton, Birkenhead, Stockport, Hornsey, or in 12 other of the 76 towns; the annual death-rates therefrom, however, ranged upwards to 2·5 in Derby and in Rotherham, 4·8 in Bolton, 5·9 in Wigan, and 6·1 in Middlesbrough. The fatal cases of measles, which had declined from 214 to 172 in the five preceding weeks, further decreased to 139 in the week under notice, and caused death-rates ranging upwards to 2·5 in Derby, 2·9 in Bolton, 4·1 in Middlesbrough, and 4·7 in Wigan. The deaths from whooping-cough, which had been 130 and 124 in the two previous weeks, further fell to 104 last week; the highest death-rates from this disease were 1·1 in St. Helens, 1·2 in Wigan, and 1·4 in Bolton. The fatal cases of diarrhœa, which had been 47, 49, and 50 in the three preceding weeks, increased to 53 in the week under notice, but the mortality was not excessive in any of the towns. The 32 deaths from scarlet fever showed a decline from the number in the previous week, and included 10 in London, three in Liverpool, three in Manchester, two in Leeds, and two in Newport (Mon.), the annual rate in the last-named town being 1·4 per 1000. The fatal cases of diphtheria, which had been 48 and 36 in the two preceding weeks, further declined to 27 in the week under notice; 10 of the deaths occurred in London, four in Hull, two in Portsmouth, and two in Middlesbrough. Of the 10 deaths from "fever," two were registered in Liverpool, two in Leeds, and one in each of six other towns. The number of scarlet fever cases in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had increased from 2658 to 2936 in the six preceding weeks, had further risen to 2986 at the end of last week; 414 new cases were admitted during the week, against 437, 368, and 389 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had continuously decreased from 412 to 149 in the preceding 11 weeks, rose again to 156 in the week under notice, and were slightly above the corrected average number in the corresponding period of the five previous years. The causes of 33, or 0 8 per cent., of the deaths registered in the 76 towns during the week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, and in 53 other towns; the proportion of uncertified deaths, however, showed a marked excess in Birmingham, Sheffield, and Bootle.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 19·0 and 17·2 per 1000 in the two preceding weeks, was 17 3 per 1000 in the week ending June 22nd, and was 4 6 in excess of the rate during the same period in the 76 English towns. The rates in the eight Scotch towns ranged from 10·5 in Perth and 13·2 in Greenock to 18·1 in Leith

Dundee. The 600 deaths in the eight towns showed an increase of one over the number in the previous week, and included 84 which were referred to the principal epidemic diseases, against 109 and 83 in the two preceding weeks. These 84 deaths were equal to an annual rate of 2·4 per 1000, which exceeded by 1·2 per 1000 the rate from the same diseases in the 76 English towns; they included 37 which were referred to whooping-cough, 23 to diarrhœa, 14 to "fever," eight to measles, and two to diphtheria, but not any to small-pox or to scarlet fever. The fatal cases of measles, which had been 57 and 43 in the two previous weeks, further declined last week to 37, of which 19 occurred in Glasgow, five in Aberdeen, four in Edinburgh, four in Dundee, and three in Paisley. The 23 deaths from diarrhœa exceeded by 15 the number in the preceding week, and included 12 in Glasgow, five in Dundee, three in Edinburgh, and two in Leith. The deaths referred to "fever," which had been 26 and 24 in the two preceding weeks, further fell to 14 in the week under notice; 12 of these deaths were from cerebro-spinal meningitis, of which five were registered in Glasgow, five in Edinburgh, and one each in Paisley and Leith. The eight fatal cases of measles were three in excess of the number in the preceding week, and included four in Glasgow and two in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 106 and 91 in the two previous weeks, further decreased to 86 last week, but were 17 above the number in the corresponding period of last year. The causes of 24, or 4 per cent., of the deaths registered during the week were not certified or not stated; the proportion of uncertified deaths in the 76 English towns during the same week did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 23·1, 23·9, and 24·3 per 1000 in the three preceding weeks, declined again to 20·8 per 1000 in the week ending June 22nd. During the past 12 weeks the death-rate has averaged 25·9 per 1000, the rates in the same period being 14·8 in London and 17·4 in Edinburgh. The 156 deaths of Dublin residents registered during the week under notice were 26 fewer than the number in the preceding week, and included 19 which were referred to the principal epidemic diseases, against 13, 11, and 12 in the three preceding weeks; of these, nine resulted from measles, five from whooping-cough, two from diarrhœa, and one each from scarlet fever, from diphtheria, and from "fever." These 19 deaths were equal to an annual rate of 2·5 per 1000, the death-rates during the same period from the principal epidemic diseases being 1·3 in London and 1·5 in Edinburgh. The fatal cases of measles, which had been six and three in the two previous weeks, rose to nine in the week under notice, while the deaths from whooping-cough declined to five, having been successively eight, four, and eight in the three preceding weeks. The 156 deaths from all causes in Dublin last week included 26 of children under one year of age and 42 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons were slightly below the respective numbers in the previous week. One death from violence and two inquest cases were registered; and 63, or more than 40 per cent., of the deaths occurred in public institutions. The causes of three, or 2 per cent., of the deaths in Dublin were not certified; in London only one uncertified death was registered, while in Edinburgh the percentage was 3·9. The 131 deaths registered in Belfast during the week under notice included 20 which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Inspector-General: J. Porter, C.B., to Royal Naval Hospital, Haslar. Fleet Surgeons: J. F. Hall to the *President*, additional, temporary, for London Recruiting Headquarters; and R. O. Munday to the *Formidable*. Staff Surgeons: M. O. Langford to the *Aboukir*; N. Ireland-Smith to the *Leander*; G. R. MacMahon to the *Blake*; and E. S. Miller to the *President*, for three months' hospital course at West London Hospital. Surgeons: H. Hunt to the *Blake*; J. J. H. Rooney to the *Leander*; and F. E. Anley to the *Victory*, additional, for Portsmouth Dockyard.

ROYAL ARMY MEDICAL CORPS.

Major Alexander Y. Reily retires on retired pay (dated June 22nd, 1907).

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among officers of the Indian Medical Service:—To be Surgeon-General: Colonel Henry Hamilton, C.B., V.H.S. (dated March 25th, 1907). To be Colonel: Lieutenant-Colonel Douglas ffrench-Mullen (dated March 25th, 1907). Majors to be Lieutenant-Colonels (dated March 31st, 1907): Charles Hardwick Louw Meyer, William Henry Wilson Elliot, D.S.O., Letterstedt Frederick Childe, William Ronaldson Clark, George Frederick William Braide, Robert John Marks, Charles Edward Sunder, Malcolm Albert Ker, Herbert Herbert, Thomas David Collis Barry, Andrew Buchanan, Lewis Gordon Fischer, William Vost, John Garvie, Clarence Edwin Lloyd Gilbert, Gerard Beatty Irvine, Frederick James Crawford, Robert Robertson. To be Lieutenant: Frank Phillips Wernicke (dated Feb. 1st, 1906).

The King has approved of the retirement of the undermentioned officer—Major Charles Louis Williams (dated March 19th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

South Yorkshire Bearer Company: Lieutenant G. H. L. Hammerton to be Captain (dated April 10th, 1907).

VOLUNTEERS CORPS.

Royal Garrison Artillery (Volunteers): 1st Forfarshire: Lloyd Turton Price to be Surgeon-Lieutenant (dated May 22nd, 1907). 1st Renfrew and Dumbarton: Francis William Squair to be Surgeon-Lieutenant (dated May 17th, 1907).

Royal Engineers (Volunteers): 1st (Sheffield) Yorkshire (West Riding): Surgeon-Lieutenant A. C. Turner to be Surgeon-Captain (dated May 7th, 1907).

Correspondence.

"Audi alteram partem."

INSURANCE AGAINST SICKNESS.

To the Editors of THE LANCET.

SIRS,—The Compensation Act, 1906, has given new life to a very important branch of business—that of insurance. Employers are under an obligation to the insurance offices for mitigating the terrors of that Act, and so, too, are their employees. It is obvious that the first tendency of such legislation is to dispose employers to reduce the number of those whom they employ and to employ younger and more nimble servants rather than those who are otherwise. The insurance offices serve an admirable purpose in counteracting this tendency and enabling employers to take a more favourable view of legislation that without seriously hurting them tends immensely to diminish the many hardships of the working-classes when overtaken by accident in the course of their employment.

It is gratifying to find that the insurance offices, apparently stimulated by the Compensation Act, have formulated proposals for insurance by employers against sickness in their employees not having any legal claim on them for such aid. This is of special interest and value in the case of household servants. The acceptance of such proposals, with or without coöperation of servants, would be greatly to the advantage of this class when overtaken by serious ailments or disease. Its generous adoption by masters or mistresses would probably do more than anything else to mitigate the "servant question" that so worries ladies. But—and this is one of my principal objects in asking the hospitality of your columns—it is necessary to point out that the present list of diseases against which the offices offer insurance is very defective and does not include those diseases in servants which are the most anxious and troublesome. I would name three which are conspicuous by their absence from any list which I have seen and which are of common occurrence among domestic servants—ulcer of the stomach, appendicitis, and influenza. There is nothing which servants appreciate more than a little consideration in times of sickness and the addition of these *diseases* to the list will, I am sure, be a great boon to them and be greatly appreciated by them. I am not arguing for legislation making employers liable for sickness as well as accident in domestic servants. There is much to be said against such legislation. But I am arguing in favour of insurance against such diseases on reasonable terms being made possible by the insurance offices, believing that there are thousands of masters and mistresses who would generously use such facilities and that such generosity would be greatly useful in improving the sympathy and relations generally between them.

But I have one more object in writing this letter, and that is to urge the use of the insurance principle generally as against sickness in all its forms. It is surprising how little attention has been given to this element of risk in society. But it is very obvious and of late years has become specially so for a reason I shall immediately mention. The days are, I hope, come when a better account can be given of the best treatment of rheumatic fever than that given by Dr. Warren—"six weeks," but even so the element of sickness in the life either of one's family or of servants is too real to be left out of account. And one change in our profession has given special emphasis to this fact. I mean the development of the use of surgery since the discovery of antiseptics. Surgery meets us now at every point, generally beneficially and sometimes with miraculous results. But it is proportionately costly. I have had several patients in the last two or three years whose surgical fees have amounted to well over one hundred pounds. Medicine proper is more merciful in her charges, especially as represented by the modest, and often inadequate, fees of the general practitioner. It is no use debating whether the insurance offices or private patients are most to blame for such a defect in our insurance against obvious risks. But it is one which should be faced and we may look to the insurance offices to solve the problem in this curious time of wealth and impecuniosity. In doing so they will not only increase their own business and prosperity but will advance the solution of social problems without injury to the medical profession.

I am, Sirs, yours faithfully,

Highbury-place, N., June 24th, 1907. JAMES GREY GLOVER.

METROPOLITAN STREET AMBULANCE ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—As the inquiry relative to ambulances now proceeding before the Home Secretary's committee presents an exceptional opportunity to the medical profession of London to put forward its views on the subject referred to, the above association desires to point out and emphasise the great importance of the inquiry and the responsibility it carries with it. The scope of the inquiry is thus officially described: "To inquire as to the provision made for dealing with cases of accident and sudden illness in the streets and public places within the metropolis and to report whether any, and if so what, improvements in ambulance provisions are necessary or desirable and how they could be best effected with due regard to efficiency and economy."

The nature of this inquiry relative to public safety is such as to bring it specially within the scope of the medical profession as being the authority most competent to judge as to the efficiency or otherwise of present methods or any other that may be proposed as a substitute. It should be remembered that many years may elapse before opportunity is again afforded for promoting action or legislation in reference to this most important subject. The Metropolitan Street Ambulance Association, as largely representing the medical profession practising in the metropolis—which number might be added to indefinitely—and also including the Metropolitan Branch of the British Medical Association, desires to ask the cordial coöperation of the profession generally to matters directly affecting the safety and protection of all persons who use the streets of London.

The association therefore desires to point out in the interests of all concerned: (1) that the present position for dealing with such accidents and casualties in the streets is admitted to be inadequate and obsolete and that an unnecessary amount of mortality and physical suffering is thereby permitted to continue; (2) that though the better organisation of existing ambulance provision may to some extent improve matters a more extended system of first aid by the police or others who may undertake this duty, as well as improvements in signalling and in appliances and forms of ambulance are absolutely and urgently needed; (3) that no service for London can be regarded as efficient that does not include a proportion of rapid transit ambulances, motor or horse, capable of communicating immediately with accidents when authoritatively requisitioned by telephone or otherwise and containing, if required, necessaries for first aid attendance; in fact, in special circumstances and urgency reversing the order of things and *bringing the hospital, so to speak, to the patient* in the street.

Further information relative to the action which is being taken by the Metropolitan Street Ambulance Association to promote a more efficient service for the many thousand accidents occurring annually to men, women, and children in the streets of London may be obtained from the honorary secretary of the association, Dr. Arthur W. James, 69, Gloucester-terrace, Hyde Park, W.

I am, Sirs, yours faithfully,

REGINALD HARRISON,
President, Metropolitan Street Ambulance Association.

Lower Berkeley-street, W., June 24th, 1907.

NOTES OF A CASE IN WHICH GLYCOSURIA, DEPENDING UPON CHOLECYSTITIS AND CHOLANGITIS, DISAPPEARED AFTER DRAINAGE OF THE BILE-DUCTS.

To the Editors of THE LANCET.

SIRS,—The notes of a case by Mr. C. W. Mansell Moullin reported in your issue of June 15th are of great practical importance and of especial interest to me in that it adds one more fact to those I have already advanced—that infection of the bile channels is frequently accompanied by infection of the pancreatic ducts leading to catarrhal pancreatitis which may pass on to interstitial pancreatitis and in some cases even to interacinar pancreatitis when glycosuria may be expected to supervene. In this case it seems to me that the title of the paper might have been more fittingly expressed as "Notes of a Case in which Glycosuria depending on Catarrhal Pancreatitis and associated with Common-duct Cholelithiasis disappeared after Removal of Gall-stones from the Common Duct and Drainage of the Infected Bile-ducts." My writings on this subject have evidently escaped Mr. Mansell Moullin's notice or he would not have written "Hitherto glycosuria, when occurring in association with cholecystitis and cholangitis, has been regarded as a bar to operation. As a matter of fact, it is one of the strongest arguments in favour of it. Thorough drainage not only prevents further injury being inflicted upon the gland by the septic organisms that have invaded it, but, as in the above case, restores the gland to the condition in which it was before the septic invasion took place. So far as I am aware, this is the first case in which a result of this kind has been recorded."

If Mr. Mansell Moullin will refer to the address that I delivered before the Royal Medical Society of Edinburgh on the Clinical and Pathological Importance of Chronic Pancreatitis, and which was published in the *Edinburgh Medical Journal* for December, 1905, he will find the following paragraph: "I do not think that a moderate degree of glycosuria need be a bar to operation, as this may arrest the progress of the disease"; but even before this, in my Address in Surgery before the Canadian Medical Association in August, 1904, which was published in the *Montreal Medical Journal* for November, 1904, will be found the following paragraph after the reports of some cases: "This case raises the question whether operation ought to be declined because of the presence of a small amount of sugar in the urine. In future should the patient's condition be fair I shall feel inclined to recommend operation in order to remove the obstruction, and by drainage to arrest the pathological process going on in the pancreas."

The subject of the relations of pancreatic catarrh and chronic pancreatitis to glycosuria is a very large one and is not so simple as at first sight it might appear. In a work on the pancreas, now in the press and to be issued shortly, my colleague, Dr. P. J. Cammidge, and I have dealt very fully with the subject of pancreatic diabetes, and my experience of operations in four cases of glycosuria is given. The following abstract from this work may be of interest to Mr. Mansell Moullin and others who may have read his paper :—

> *Chronic interstitial* pancreatitis *has been frequently observed* in association with diabetes, but in the majority *of cases* where interstitial changes in the pancreas arise from obstruction of the ducts by gall-stones *or from other causes, glycosuria* is not met with as a symptom. In 65 consecutive cases where biliary calculi were found in the common duct at operation and the pancreas was enlarged and hard, we have only detected sugar in the urine *of four (6 per cent.). In three of* these the amount was under 0·2 per cent., and in the fourth 0·4 per cent. was present. After operation the sugar disappeared from the urine in all but the last one, in which it slowly increased in amount, the patient dying from diabetic coma ten months subsequently. Since the interstitial changes *arising from* the presence of gall-stones in the common duct principally affect the head of the gland in the first instance, and the results of experiments upon animals have shown that even a small portion of healthy pancreatic *tissue will prevent the onset of* diabetes, or at least delay the appearance of the symptoms so long as it remains undestroyed by fibrotic changes, the comparative rarity of glycosuria in these cases is not difficult to explain. When, however, a great part of the parenchyma has been destroyed or is functionally impaired by the progressive changes consequent on repeated or long-continued irritation, either from gall-stones or an unrelieved duodenal catarrh, sugar will make its appearance in the urine, first as an alimentary glycosuria; *and later as a permanent diabetes.*

I am, Sirs, yours faithfully,

Park Crescent, W., June 17th, 1907. A. W. MAYO ROBSON.

VAGAL ATTACKS.

To the Editors of THE LANCET.

SIRS,—In his lecture on Vagal and Vaso-vagal Attacks in your issue of June 8th Sir W. R. Gowers has defined for us certain types of seizures hitherto included in the general category of hysteria. They belong to a class of disorders in which the causes are complex and the varieties manifold, scarcely any two cases being alike in the sense that two cases of scarlet fever or of tuberculosis are alike. It is therefore especially helpful to have clinical pictures drawn of these types, so that cases can be grouped under one or other or in a mixed form under two such types. Sir W. Gowers performed a like service in his recent lecture on "Faints and Fainting,"[1] in which the relations of syncope and epilepsy were dealt with. Many of your readers will recognise cases of their own in the description given by our author of vagal attacks. Let me mention one recently under my observation. The patient is a married lady of about 35 years of age, whose father and father's sister have had mental trouble. She has herself been liable to depression of spirits, especially so after her first confinement. Having lived in a tropical climate she has suffered often from malaria and rheumatism, but not severely. Two and a half years ago she began to show signs of mental disturbance in alteration of disposition and temper, and these signs were much increased on the occurrence of pregnancy shortly afterwards. She became melancholic and physically weak, so that on consultation it was deemed necessary to terminate the gestation. By this she was much relieved, but a chronic mental state came on characterised by inability to make decisions, consequent uncertainty of mind over every step, constant regrets, and lessened power of attention. This condition lasted for about a year, after which it improved and she is now nearly recovered. During this period of mental disturbance she was liable to the frequent occurrence of "*storms*," so called by her husband, to whom I am indebted for a very intelligent description of her symptoms. These seizures began with a feeling of præcordial constriction and a sense of impending evil or a "*guilty feeling*," *as* if she had done something wrong. She wept and bemoaned herself. There was often occipital headache, fluttering or a feeling of turning over at the heart, and difficulty of breathing, sometimes great; also diarrhœa. When the attacks were severe the extremities became cold, even intensely so, the *fingers* and *toes* were blue and numb or tingling. Rigidity of the fingers was sometimes present, the joints of each finger being flexed in varying degrees "so as to render the hand most odd-looking." *Consciousness* seemed to be impaired, *as she gave no reply to* questions. These attacks *still* occur but in a slighter form, apparently excited by extra fatigue or the catamenial period. The seizure belongs evidently to Sir W. Gowers's vagal class, with a mixture of vaso-motor influence especially when the attack is severe.

I should like to suggest the value of bath treatment in cases of this kind. Two ends may be attained by it. In the first place there is the sedative effect upon the nerve centres of massive sensations of gentle warmth from the periphery, obtained by the use of subthermal baths, aided in some cases by the addition of fragrant pine extract to the water of the bath. Secondly, in cases in which vaso-motor spasm is present the use of the warm bath, which may be taken nightly, dilates the vessels of the surface and equalises the circulation. In a case of labyrinthine disorder, aggravated by vaso-motor spasm, I found the effect most soothing, and the tinnitus constantly present was always less loud whilst the patient was lying in the bath.

I am Sirs, yours faithfully,

Weymouth-street, W., June 15th, 1907. R. HINGSTON FOX.

To the Editors of THE LANCET.

SIRS,—Sir William Gowers has recently written some exceedingly suggestive and helpful articles,[1] among which the lecture appearing in your issue of June 8th, entitled as above, is by no means the least interesting and instructive. When I had read it, however, I wondered why the attacks therein described should be called "vagal," and on re-reading it my wonder under this head was not diminished. Sir William Gowers has given us many good words (e.g., "knee-jerk" and "fibrositis") and has so often shown that he is not only a *literary but also an etymological purist* that one, at least, of his admirers is rather shocked that he should lend the weight of his authority to what may be described as a misnomer which is more than usually calculated to obscure the truth.

It is not my purpose *to venture* any *suggestions* as to how these attacks originate, but I submit that there can be no reasonable doubt that the *symptoms* are due, not partly, as Sir William Gowers suggests, but altogether to vaso-motor spasm, a process in which, so far as is known, the vagus takes no part. The vagal *symptoms*, as opposed to the vaso-vagal, are described in the lecture as sensations referred to the stomach, the respiratory system, and the heart. They consist in a sense of oppression at the epigastrium which is never accompanied by vomiting, a sense of *respiratory* distress *often amounting to orthopnœa*, and cardiac disturbance, such as præcordial discomfort amounting in some cases to acute pain, with a sensation of sudden stoppage of the heart, followed by rapid action. During the attack there is generally the "anginal" sense of alarm and fear of impending death.

If the existence of a vaso-motor spasm be granted, it does not seem necessary to invoke the aid of the pneumogastric to explain the above phenomena. With constricted arterioles would come overfulness of the *venous system*. This would *account for* the epigastric discomfort by sudden distension of the right ventricle; by an obvious process it would also account for the respiratory distress. The increase of tension in the larger arteries would react upon the heart so as to overfill the left ventricle and thus create the feeling of sudden stoppage. It would also evoke the pain and the anginal sense of impending death. Sir William Gowers would add to the many obligations under which he has already placed *the profession* if he would *stand* godfather to these attacks and supply us with a name which does not imply a doubtful theory of causation. And, after all, are they—these seizures—so very *different* from those described by Nothnagel[2] *as angina pectoris* vaso-motoria and by Huchard[3] as pseudo-angine névrosique?

I am, Sirs, yours faithfully,

London, W., June 18th, 1907. LEONARD WILLIAMS.

To the Editors of THE LANCET.

SIRS,—Dr. Leonard Williams has kindly allowed me to see his letter (printed above). The causal significance he finds in the term "vagal" was not in my mind when I *adopted* it. The word was chosen only *as convenient* and descriptive, at any rate as conveying the fact that the symptoms are chiefly within the functions of the pneumogastric. Thus used, no advance in our knowledge can make it inaccurate. It does not seem to me to imply the hypothesis Dr. Williams has found in it. The possible vaso-motor origin of all the sensory symptoms of the attacks was not referred to, partly because it is doubtful whether all can be thus explained (or only thus), but chiefly because my object was to contribute to our knowledge of the symptoms and relations of these attacks and to avoid hypothetical explanations. These I gladly leave to others, and their value will be great if they stimulate precision of observation on the part of those under whose notice such attacks may come.

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[1] THE LANCET, March 2nd, 1907, p. 565.

[1] "Vertigo," *Brit. Med. Jour.*, July 7th, 1906, and July 21st, 1906; "Migraine," ibid., Dec. 8th, 1906; "Faints and Fainting," THE LANCET, March 2nd, 1907.

[2] Douglas Powell in Allbutt's System, vol. vi., p. 22.

[3] Maladies du Cœur, vol. ii., p. 200.

The symptoms met with in these attacks have, no doubt, often been mentioned. The "vaso-motor angina" described by Sir Douglas Powell is clearly similar in essential nature. I regret if I seemed to suggest an originality I did not intend to claim. I am, Sirs, yours faithfully,

June 25th, 1907. WILLIAM R. GOWERS.

GARDEN SUBURBS AND GARDEN CITIES.

To the Editors of THE LANCET.

SIRS,—I hope you will be kind enough to allow me to correct one or two points of detail in the most interesting and sympathetic article on Garden Suburbs and Garden Cities in THE LANCET of June 8th, which has only recently been brought to my notice. The writer states that the Hampstead Tenants Society has bought the Hampstead Garden Suburb, but, as a matter of fact, the Tenants Society is a subordinate society leasing land for cottage property from the Garden Suburb Trust, just as a similar society, the Garden City Tenants, does at Letchworth. Garden city and suburb companies do not as a rule build themselves but content themselves with owning and laying out the land, and therefore these societies, often called by their German name of "Societies of Public Utility," coöperate with them by building the smaller houses, or a number of them at least. The houses are built and owned by the society, tenants being encouraged to become members. The return to capital is limited, any surplus going to tenant members. The system permits and encourages the detailed development of the town-planning idea, as it enables groups of houses to be built in relation to each other, with a due proportion of open space and garden. The object of the society is to do the best it can for the tenants, not to make the greatest return to capital. It is the Hampstead Tenants, Ltd., which recently started building operations, when Mrs. Barnett kindly cut the first sod.

These societies, which are developing throughout the country, both in connexion with larger schemes, as at Hampstead, Letchworth, and Wolverhampton, and independently, as at Ealing, Oldham, and Sevenoaks, are united in the Co-partnership Tenants Housing Council, which is the propagandist association for this part of the movement. May I add that I was especially glad to know that your article laid emphasis on the importance of the agricultural belt at Letchworth? This is, to my mind, the essential point in any garden city scheme, as distinguished from a garden suburb. The price of land puts it beyond the scope of privately started garden suburbs, but is it too much to hope that town-planning, when it becomes general, will involve a *limit* and a carefully preserved agricultural belt beyond that limit? Are our town areas to be allowed to cover the country and run into each other indefinitely, so that the real country becomes more and more unapproachable? I would suggest that agricultural belts will be a necessity if we wish to preserve the health and vigour of our population.

I am, Sirs, yours faithfully,
SYBELLA GURNEY,
Hon. Sec., Co-partnership Tenants Housing Council.
Bloomsbury-square, W.C., June 22nd, 1907.

THE COUNCIL ELECTION AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—I have had several inquiries from Fellows of the College as to which of the candidates at this election are in favour of some reform in the direction of giving the Members reasonable representation. I have not been in communication with any of these gentlemen, and do not know their views, with the exception of *one*—Mr. W. Bruce Clarke—who has frequently spoken and written in favour of this reform. I have therefore advised my correspondents to vote for him, and would urge all other liberal-minded Fellows to do the same. I am, Sirs, yours faithfully,

W. G. DICKINSON,
Hon. Sec., Society of Members of the Royal College
June 24th, 1907. of Surgeons of England.

SOME PHYSIOLOGICAL EFFECTS OF HIGH-FREQUENCY CURRENTS IN DISEASE.

To the Editors of THE LANCET.

SIRS,—With reference to Dr. S. Sloan's interesting article which appeared in THE LANCET of June 8th, p. 1557, entitled "Some Physiological Effects of High-frequency Currents in Disease," it appears to me highly desirable that further particulars should be given respecting his apparatus, for without these it is impossible to conclude whether some of his deductions are correct and his conclusions valid in so far as the application of these high potential currents is concerned. It is all the more necessary that these particulars should be supplied in view of the queries he himself has raised, apart from his desire to have a scientific commission appointed to investigate the whole subject. It is more on the physical than the physiological aspects of *his* paper that I should like to comment, it being *self-evident* that the trustworthiness of the latter depends upon the accuracy of the former.

The following are the points upon which I would like to have a reply from Dr. Sloan: (1) What are the voltage and ampèrage taken from the mains or *source* of supply on the primary side of the apparatus? (2) What are the voltage and maximum ampèrage of the apparatus? (3) How is the external circuit connected to the apparatus? (4) Is it in series or parallel? (5) How is the earth circuit connected with the apparatus? (6) In what part of the external circuit is the earth connexion made?

I am, Sirs, yours faithfully,
J. CUNNINGHAM BOWIE, M.B. Glasg.
Cardiff, June 18th, 1907.

THE REDUCTION OF DISLOCATION OF THE THUMB.

To the Editors of THE LANCET.

SIRS,—I should like to draw attention to what I believe to be an improved method of reducing the usual dislocation of the thumb. A few days ago, having failed to reduce a dislocation of the thumb by the ordinary method as described by *Rose and Carless*, 1902 edition, and in view of the fact that they state that the tension of the flexor longus is one of the chief hindrances to reduction, I made a further attempt at reduction *with the wrist completely flexed* and I applied the two half hitches of bandage, with which I grasped the thumb to the first phalanx so as to allow *the second phalanx to flex* and so still further relax the flexor longus tendon. I then pressed the metacarpal bone firmly into the palm of the hand to relax the short flexor; having thus relaxed all the muscles that were opposing reduction I then made traction in the usual way, first backwards, and by the time I had got the thumb straight the dislocation was reduced. Of course, it may have been a pure coincidence and have nothing to do with the relaxation of the flexors and I am sending you this letter in the hope that others may test the value of the method. I am, Sirs, yours faithfully,

LESLIE B BURNETT.
Oxford East, Canterbury, New Zealand, May 7th, 1907.

NOTIFICATION OF BIRTHS BILL.

To the Editors of THE LANCET.

SIRS,—I venture to point out that an amendment in the report stage of this important Bill would be of threefold advantage. According to the present wording it is laid down that notification must be made to the medical officer of health for the district; the altered wording I would suggest is that "notification should be made to the local supervising authority under the Midwives Act in England and Wales, and in Scotland to the local sanitary authority under the Public Health (Scotland) Act, there being no local supervising authority in Scotland.

The advantages that would, in my opinion, be gained by this change are the following. 1. The county and county borough authorities, which in many cases have already done valuable public work in promoting the provisions of the Midwives Act (1902), would remain the responsible bodies, able and willing to deal with the valuable statistics, especially regarding cases of stillbirths, which will before long be available, after the passing of the Notification Act, and which are already enforced on the midwife. The duties of supervising authorities as to midwives would merely be extended, as they have in a large proportion of cases the existing needful machinery and can avail themselves of inspection and classification of figures in their reports. 2. Midwives should not be obliged to notify stillbirths to *two* authorities; this will be the case if the present wording be adhered to and much confusion must inevitably result. 3. The mother and infant, if the latter be living, should be kept calm and quiet in so far as this condition is possible in a poor home; such quiet is scarcely to be obtained if two different authorities, as may be the case in London, have power to visit after a birth is notified, within 36 hours, through their inspectors, in order to advise as to details of feeding, &c. This advice may be most necessary and useful, but there should be no clashing in the nature of the information given or by the authorities responsible for it. To be of practical service it should be clear, concise, and simple. Notification at 48 hours would probably be more easily enforced.

I beg to add that I write in my individual capacity and not in any way as undertaking to represent the views of the Central Midwives Board. I have long been interested in the whole subject of high maternal and infantile mortality. The Notification Bill attempts to deal with the latter part of this question, hence my desire for alteration in the wording of the same.—I am, Sirs, yours faithfully,

J. WILSON,
June 24th, 1907. Member of Central Midwives Board.

THE NEW VACCINATION ORDER.

To the Editors of THE LANCET.

SIRS,—I should like to say how fully I appreciate the able and exhaustive article by a Public Vaccinator which appeared in your columns last week. It is impossible to add anything to the trenchant remarks he made. The only point I can make is, what are the best steps to take to induce the various boards of guardians to grant us a reasonable fee for the services we are called upon to render? I cannot help feeling that in a question of such vital importance to many men the question of fees should have been laid before Parliament and that some opportunity should therefore have been given of hearing our own members' opinion. The very autocratic action of the President of the Local Government Board hardly seems in consonance with the democratic views he is supposed to have held. We as public vaccinators have had nothing to do with the construction of the Act of 1898; neither were we consulted with respect to the issue of the Local Government Board Order under that Act. But we imagine, and not without good reason, that the person responsible for the fixing of the *minimum* fee in the Order had good and sufficient reasons for saying to the boards of guardians that it should not be less than 5*s*. I can well understand the attitude taken up by many boards of guardians when they found that their expenses under the Act of 1898 amounted to practically *four* times the amount paid before that Act came into operation. In such circumstances was it not the bounden duty of the Local Government Board, believing as they were bound to do in the new ordinances, to say to the boards of guardians, "We will relieve you of the extra amount you have to pay as we consider that this is a matter of national importance and therefore we will call upon the Chancellor of the Exchequer to refund you the amount you have paid since the Act of 1898 was passed"? I am, Sirs, yours faithfully,

June 24th, 1907. ANOTHER PUBLIC VACCINATOR.

BEES' STINGS AND RHEUMATISM.

To the Editors of THE LANCET.

SIRS,—In answer to the question of Dr. E. W. Ainley-Walker in your last issue I can narrate an example of the belief that the stings of bees have a curative effect in rheumatism. Some eight years ago, when I was travelling, the mate of a cargo boat showed me an apparatus that he informed me had belonged to his father who had been cured of very severe and obstinate "rheumatism of the spine" by its use. It consisted of a metal piston working in a cylinder in which it could be withdrawn or released by means of a spring. On the "business end" of the piston were set concentric rings of needles projecting about one-eighth of an inch from the end of the piston; the instrument was used by applying it over the affected part and releasing the spring sharply; by this means the skin was scarified in the same sort of way as I believe is employed in some modern tattooing. In this process, however, the ink was replaced by a dark-brown and somewhat viscous solution that I was assured was prepared from the stings of bees. My informant's father had obtained it many years before from a German chemist and was said to have derived the greatest benefit from the use of this certainly heroic remedy. It was a condition of success that the fluid should be rubbed in very vigorously, and it was said to produce a smart inflammatory reaction, which is hardly surprising. My informant only had a little of the fluid left and he did not know whether it could still be obtained anywhere. His father apparently had it applied all down his spine and I imagined at the time that it was a case of osteo-arthritis and that the benefit was produced simply by counter-irritation. It is possible, however, that it may have had some *specific effect as the patient supposed.*

I am, Sirs, yours faithfully,

June 24th, 1907. TATTOO.

ULISSE ALDROVANDI: THE CELEBRATION OF THE THIRD CENTENARY OF HIS DEATH.

(FROM AN ITALIAN CORRESPONDENT.)

Bologna, June 14th.

TRUE to her best traditions, the "Mater Studiorum," the "Mother City of Universities," has this week been giving hospitable entertainment, intellectual and social, to the representatives of nature-study in Italy and abroad assembled to assist her in commemorating, 300 years after his death, the most versatile, the most accomplished, in some respects the most typical of her sons. THE LANCET[1] has already given in outline the main features of that sagacious, energetic, even romantic figure, and has now to report the commemoration (or shall I call it the "amende honorable"?) by which Bologna has brought him back to the world of to-day as one of the most enterprising and unwearied of those workers who, possessed of all the learning of the old civilisation, prepared the post-Renaissance generation for the construction of the new.

It is to the Senator Giovanni Capellini, professor of geology in the university, that we chiefly owe the commemoration of Ulisse Aldrovandi, as indeed we owed to him, in great measure, the most interesting academic demonstration of last century, the eighth centenary of the Bologna school on June 12th, 1888. Appropriately, therefore, on the same day of the same month the same professor opened the proceedings of the present week with a few words of welcome to his brother nature-students in Italy and from outside nationalities, describing the inception of the commemoration and dwelling on the reconstruction of the Museum Aldrovandinianum, in which Aldrovandi's marvellously rich and artistically prepared specimens of the vegetable and mineral kingdoms, with his beautiful drawings and engravings of the animal world, have at last been brought together, classified, and made available for the historian of inductive research. Concurrently with this reconstruction of the museum, Professor Capellini drew attention to the publication of the annals of the Bologna school, the first *fasciculi* of which have seen the light this week, and been distributed to the delegates, Italian and foreign—to wit, the "Chartularium Studii Bononiensis" and the "Studi e Memorie per la Storia dell' Università di Bologna." These documents the said delegates will carry home to their respective seats of learning, together with another gift from Professor Capellini and his committee, a bronze medal artistically struck in memory of the unveiling of the tablet to Aldrovandi, placed on the wall of the Archiginnasio side by side with that commemorating the octocentenary of 1888. Professor Capellini, on resuming his seat amid rounds of applause from the vast audience, called on Signor Janari, the pro-Syndic, to give Bologna's welcome to the delegates. This was done with the grace and happy effect of an accomplished member of the Italian Parliament, after which the turn came to Dr. Vittorio Puntoni, Rector of the University, professor of Greek, and well known to scholars for his edition of Herodotus. Speaking in the pure flowing Latinity of which he is a master, Professor Puntoni was easily understood even by the less "classical" of his auditors, as he dwelt on the many-sided culture of Aldrovandi, which showed itself not only in nature-study, but in archæology, in law, and in literature, down to the "elegant pastime" of Latin verse. Nature-study, continued Professor Puntoni, so far from militating against proficiency in other pursuits, is their best ally, as it is only under nature's *guidance* and *only* by studying, so to speak, before her mirror that the artist and the poet—nay, the votary of law and legislation—can reach that truth, that reality, which gives enduring value to their work. Borrowing the noble words addressed by Marcus Aurelius to nature—*ἐκ σοῦ πάντα, ἐν σοὶ πάντα, εἰς σὲ πάντα*—Professor Puntoni saw the secret of Aldrovandi's success in his loyalty to that motto and concluded his brief, telling harangue with a period quite impressive in its cadence which evoked general applause as he resumed his seat. Next to address the audience was the representative of the Government, Signor Sanarelli, who, speaking in name of the departments of education, agriculture, and commerce, acquitted himself with more than official competence, and then, in long series, came the delegates of the foreign schools. Professor Spiridione Brusina of the Accademia Scientifica of Zagabria (Croatia) led off, followed by M. Léon Pélissier, who holds the chair of history in the University of Montpellier. This "vero tipo del Francese meridionale," as an Italian described him, spoke admirably, dwelling on the magnetic influence of Aldrovandi, whose name, he said incidentally, was borne by a flower which he had classified, and concluding with an impassioned salutation to the Bologna school, to Italy, and to the Italian King. The applause that ensued was general, mainly from the serried ranks of students at the back of the hall who behaved well throughout, in spite of a few sporadic cries of "Viva la Francia Anticlericale!" Great Britain, Roumania, and the United States of America came next, the British schools (Oxford, Cambridge, Glasgow, and St. Andrews) being respectively represented by Mr. W. Ashburner, Professor A. C. Seward, Professor Ferguson, and Dr. J. P. Steele. By arrangement with Professor Capellini, where several seats of learning from the same nationality were *en évidence*, their spokesman was selected from one of their delegates; and so the task of addressing the audience on the part of Great Britain fell to the professor of chemistry in the University of Glasgow, Dr. John Ferguson, who made a brief, pointed, and highly-finished speech, which, though conveyed in English, went home to the audience with centripetal effect. Professor Wieland of New Haven (U.S.A.) spoke, also in English, and was cordially received, while Professor Schück of Upsala, who holds the chair of fine art, literature, and the history of æsthetics, delivered a glowing oration in Italian, which proved one of the most successful of the series. And so in a sort of academic "march-past" university after university, from all regions of Christendom, paid its tribute to the hero of the day, each spokesman, as he resumed his seat, handing to Professor Capellini the specially prepared address of his school, engrossed on vellum, and often a fine work of illuminative art. Conspicuous among these was the address of the University of Cambridge, conveyed by Professor Seward, F.R.S., Emmanuel College, and written, I believe, by the public orator, Professor J. E. Sandys. This fine specimen of what a fraternal greeting of one seat of learning to another ought to be was greatly admired when exposed with all the others to public view in the Museum Aldrovandinianum and may here be given *in extenso*.

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[1] May 25th, 1907, p. 1463.

Illustrissimae Litterarum et Artium
Universitati Bononiensi
S. P. D.
Universitas Cantabrigiensis.

Abhinc annos undeviginti viri doctissimi, Universitati vestrae [illegible] annos octingentos ab origine sua feliciter exactos libenter gratulati sumus. Hodie vero non minus libenter vobis [illegible] gratulamur, quod, una cum Universitatis vestrae die natali, etiam alumni vestri insignis, ULYSSIS ALDROVANDI, memoriam perpetuam estis celebraturi. Rerum autem naturae indagator ille indefessus, qui abhinc annos trecentos de vita decessit, olim, velut alter Ulixes, orbis terrarum regiones remotissimas peragravit, atque, operibus magnis eruditissime conscriptis, etiam Varronis Bononiensis nomen est adeptus. Ingenio pariter ad plurima versatili praeditus, primum, adhuc iuvenis, urbis Romae de statuis antiquis Italiae in lingua hodierna opus eximium condidit; postea, pictoribus et sculptoribus optimis aere suo conductis, animantium exemplis plurimis accuratissime delineandis et uberrime explicandis volumina ingentia, Romae antiquae in lingua universa conscripta, dedicavit. Non immerito igitur unus e poëtis vestris ab alumno vestro insigni laboriosissime descriptas miratur

> 'multiplices rerum formas, quas pontus et aether
> exhibet, et quidquid promit et abdit humus.'

Ille ergo, qui vobismet ipsis Museum suo labore per annos plurimos rerum naturae miraculis instructum legavit, orbi terrarum reliquit litterarum monumenta a se condita; reliquit rerum naturae studiosissimo cuique nominis memoriam in perpetuum colendam et conservandam. Viri autem tanti fama, quae patriae profecto gloria est, patriae tamen finibus nequaquam terminatur. Septentrionali quidem Europae in regione Carolus Linnaeus, cuius memoria in anno eodem celebratur, ALDROVANDI nomen inter antecessores suos honoris causa memoravit. Nos autem, eiusdem in honorem, ex insulis nostris ad occidentem solem spectantibus scientiae botanicae professorem nostrum eximium ad sacra vestra saecularia mittimus, qui nostrum omnium nomine et Italiam, tot studiorum nostrorum matrem, et Bononiam, inter tot doctrinae sedes antiquissimam, reverentia debita salutet. Valete.

Datum Cantabrigiae
Idibus Martiis
A. S. MCMVII°.

The discourse of the day—the "Éloge" of Aldrovandi—was next delivered by Dr. Emilio Costa, professor of Roman law in the University of Bologna—a masterly performance replete with interesting references to the history of the school, but to some extent handicapped, coming as it did at the close of a long series of speeches and addresses on an exceptionally warm day in June. Copies of Signor Costa's "Éloge" in a printed form were distributed to the foreign delegates as they left the hall and will doubtless be valued by them, as was the similar oration, similarly delivered, of the poet Carducci at the octo-centenary celebration of 1888.

The unveiling of the "Lapide Commemorativa" to Aldrovandi, in the quadrangle of the Archiginnasio, was the next "function," admirably performed by Professor Pietro Pavesi of the zoological chair in the University of Pavia, who dwelt luminously and glowingly on the relations between the "Mater Studiorum" and her daughter—in some respects "matre pulcrâ filia pulcrior"—of Lombardy.

On the following day (the 13th) the reconstructed Museum Aldrovandinianum was inaugurated in a fervid speech of Professor Capellini, who inveighed with just indignation against the compatriots who had allowed so much noble work as that of Aldrovandi to lie so long neglected, even when not wilfully dispersed, and in some cases irreparably lost. As it stands, however, the collection is a marvellous monument of sagacity, energy, and free-handed largess—the nature-student, as comprehensive and wide in his horizon as Aristotle, sacrificing everything, health, ease, worldly means, to the advancement of truth and to the inculcation of the Hippocratic principle that nature-study lies at the basis of human culture and has its culmination and crown in the healing art.

The excursions and the visits to the centres of scientific equipment in Bologna and its neighbourhood—especially the "Museo Indiano," due to the learning and liberality of the professor of Indo-Germanic philology, Count Francesco Lorenzo Pullé, whose travels in the East have so redounded to the advantage of science—occupied the rest of the day, and in the evening a grand banquet at the Hôtel Brun brought the commemoration to a brilliant and felicitous close.

ST. THOMAS'S HOSPITAL.—DISTRIBUTION OF PRIZES.—The prizes for the summer session 1906 and the winter session 1907 won by the students at this hospital were distributed on June 26th by Mr. H. Rider Haggard, J.P., in the Governors' Hall of the institution. For the session 1906-07 the entrance scholarship of £60 was awarded to Mr. W. M. Littlewood and the University scholarship of £50 to Mr. O. V. S. de Wesselow. The Bristowe medal was awarded to Mr. C. M. Page, the treasurer's gold medal to Mr. J. A. Clark, and the Sutton Sams Memorial prize by Mr. H. B. Whitehouse. In his address Mr. Rider Haggard said that the superstitions of the world which the students were going to face were almost as many as those of the Middle Ages. It was the work of the medical man to combat these. The medical man in all things should strive to earn the noble title of beloved physician.

THE RENEWAL OF THE SANDGATE SANATORIUMS SCANDAL.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 1606.)

IN spite of the compensation clause introduced by the House of Lords it was maintained by some of the persons concerned that there was still virtue remaining in the Sandgate Urban District Council Sanitary Powers Act of 1905. The former clerk to the council, Mr. L. J. Drake Brockman, notably, argued energetically in favour of enforcing this new law. But the opinion was spread that the law was only useful in so far that it would provide a pretext for litigation, which would only benefit the lawyers and experts concerned. It is thought by some persons that the council might have yielded to such protest but for the action of the medical officer of health and Mr. Brockman. These two gentlemen insisted that the law should be applied, and the council after some hesitation consented to draw up regulations and to send them for approval to the Local Government Board. Section 3 of the Act empowers the council to make regulations in regard to places called "hospitals for disease," which, for the purposes of this Act, are dwellings where persons suffering from tuberculosis are to live and to be treated. Such places must now be licensed, and before granting such licence the council is supposed to make regulations in regard to structure, drainage, ventilation, surrounding air space, number of patients to be admitted, administration, &c.; but these "prescribed regulations," as they are to be called, must be approved by the Local Government Board. On the other hand, the Act provides that any expense to which the owner is put through the operation of the Act shall be met by compensation from the district council and this constitutes the gist of the whole difficulty. It was thought that under such regulations the Jones's homes could either be closed or so completely transformed as to cease to be a constant cause of complaint, though the presence of consumptive patients in the streets, especially when they are paupers, may always constitute a source of complaint. The only other clause existing that might be invoked in regard to existing homes in the absence of regulations is Paragraph A of Section 3, Subsection 7, which says that the licence may be refused if "the person applying for such grant or renewal (of licence) is not a fit person to be licensed to keep a hospital for disease." This, however, might involve expensive litigation.

Unfortunately there is no legal definition as to who is or is not competent to manage a hospital. There is nothing to show that the Jones family possess any sort of technical qualification, but the same may be said of the lay committees of management of many hospitals of this country, and Mr. Jones is believed to be advised by a medical man. Thus the only course of action was to draw up regulations; on the other hand, what sort of regulations could be drawn up that could be effective without giving the Jones family the right to claim compensation? Then there was also the fear that what with licensing and regulating these homes would end by being established in a permanent and legal way; whereas the inhabitants are really only desirous of getting completely rid of such institutions. Therefore, instead of regulating, which might result in perpetuating, it seemed that it would be better to buy out the Jones family and to adopt regulations for new homes that would prevent the recurrence of a similar grievance. This the Act sanctions and leaves it as a matter of agreement. But the owners asked far too high a price, particularly as the premises would have to be disinfected and done up anew in every respect. On the other hand, as Section 233 of the Public Health Act of 1875 is applied to loans under this new Sandgate Act moneys could be borrowed and the repayment spread over a number of years.

In arguing in favour of purchase Mr. Brockman, in his report to the council, said:—

> When once the stigma of Sandgate as a colony for consumptive patients is removed there is no reason why the value of the properties should not increase, and it therefore seems not improbable that in the long run there will be little or no serious loss to them.

He therefore urged the council to use the Act so as to remove from the town ..

> the stigma of being little better than an aggregation of pauper consumptive hospitals, for that is the exaggerated view of the outside public. I know, and may well tell you, that until you make it impossible for any such establishments as those of the Jones family to exist in Sandgate the place will be avoided as if it were plague-stricken by the class of visitor whom you desire to attract to the town.

In such circumstances, he added, any sum in compensation would be well spent as an absolute insurance against such evils as the town had suffered from for the last ten to 15 years.

From the above it will be seen that there were two courses open to the Sandgate district council. First, to draw up regulations and to enforce them; and secondly, to buy the Jones's homes. The remarkable fact remains that the council would gladly follow either course and yet has not been able to do anything whatsoever. Before any attempt was made to secure a special Act of Parliament the Local Government Board was consulted on the subject and the Sandgate authorities imagined that their plan had been approved. But when the Local Government Board experts appeared before the House of Lords and the House of Commons committees their evidence was hostile on public grounds. It was not anticipated, however, that when once the Bill was passed and became law there would be any difficulty about the regulations. The question of compensation was the only difficulty that troubled the authorities; but the clerk argued that the regulations would not prevent the homes being used for convalescents. The compensation would depend first on evidence being forthcoming that as homes for consumptives they were paying concerns. Then it would be necessary to show what the loss might be if they were converted into homes for convalescents, though this might give rise to expensive litigation. The convalescents pay 17*s.* 6*d.* per week, and the patients suffering from tuberculosis pay 21*s.* per week, but then the latter are supposed to cost much more to keep. Therefore, if the homes were as well filled with convalescents as they are with tuberculous patients there should be hardly any loss at all, but the paupers would still figure in the streets of Sandgate.

These suggestions evoked, however, great hostility on the part of many inhabitants of Sandgate. The object of not a few property owners is to get rid of the homes altogether, and this because of their pauper inmates. The allegation that many of the paupers are dangerous neighbours, because they might spit in the streets and spread tuberculosis, was utilised as a strong argument against the homes. Nevertheless, if no more tuberculous patients were received at the homes the fact that some 200 paupers, from all parts of England, but principally from London, are crowded together in a small town of less than 2000 inhabitants is their principal grievance. How can the inhabitants of Sandgate attract visitors or the families of the officers quartered close at hand in Shorncliffe camp when out of every ten persons living in this small community one of them is a pauper, even though he be only a convalescent and not a tuberculous pauper? In spite of all these objections the council determined to apply the special Act. Under this law the Jones family sent in applications for licences to receive tuberculous patients in six of their homes. At the same time—namely in December, 1905—the Sandgate council forwarded to the Local Government Board a draft of the "prescribed regulations" which it proposed to enforce as the conditions for granting licences. This project of by-laws was returned on Dec. 13th, the Local Government Board asking that certain clauses should be struck out. This was done and the project sent back on the 20th, it being necessary not to lose time, as the licences would have to be granted or refused on the 20th of the following month.

While seeking to obtain the consent of the Local Government Board to the regulations, negotiations for purchase were opened with the Jones family and it is said that £10,000 were offered. In January, 1906, the Jones family, however, insisted that this sum would not cover the mortgage on the estate. The council added another £2000 for goodwill and compensation, though it was not satisfied that the property was worth more than £10,000. Indeed, it was thought very doubtful whether this sum would ever be recovered. In any case the council would have to hold the property for a very long time, and unless it succeeded in letting it this would entail a heavy loss. While these efforts to purchase were thus proving abortive the negotiations with the Local Government Board were not making any better progress. On Jan. 5th, 1906, the Board wrote asking for information on numerous points. It desired to have a list of the applicants for licences, then inquired if the premises could be made to comply with the proposed regulations, and, if not, wanted full particulars, the result being to show that the regulations would entail the closing of all the homes. Finally, the Local Government Board added that all these matters could not possibly be concluded before Jan. 20th when the licences must be refused or granted. Therefore the Sandgate council would have to consider the applications without reference to regulations. Thus was the council left in a hopeless difficulty. It could not purchase the homes at the price required; it could not regulate the homes in the sense suggested by the drastic draft regulations, since the Local Government Board had not sanctioned them or placed the homes on the same level as small-pox hospitals, nor could the council refuse to license the homes on the ground of their not complying with the regulations, since no regulations existed. Then had such a refusal been made the whole question of compensation would be raised and the council could not say why it refused to license. If a licence was refused, except on a ground mentioned in the Act, the applicant could get his licence by appeal, to quarter sessions. The Local Government Board expresses its willingness to sanction reasonable regulations, but any increase of cubic space would decrease the number of patients to be received in the homes and prejudice the question of compensation. However, the council did refuse to license one of the homes—namely, Ontario House. The council took this course in regard to this house because the house was not used for tuberculous patients when the matter was before the House of Lords and there could in consequence under the provisions of the Act be no claim for compensation for refusal to license. But the five other houses were already inhabited by tuberculous patients and therefore if they were not licensed a claim for compensation might be entered. Thus five of the Jones's homes were licensed and the licence ran from March 1st, 1906, to March 1st, 1907.

Having failed to obtain regulations in time the Sandgate council let the matter remain in abeyance for a little while. In March, 1906, the Local Government Board wrote saying that before sanctioning any regulations it wished to hold a general inquiry and that they should first be considered with regard to hospitals or homes destined to receive tuberculous patients in the future, leaving existing sanatoriums to be dealt with separately. Such inquiries are always held as a matter of law and of justice. The Sandgate council replied that, as the summer season was approaching, it strongly objected to a public inquiry which would not fail to frighten away the few visitors who still came to Sandgate and whose presence saved the town from total ruin. Besides, the council was not concerned in devising plans for the construction of hospitals in the future; its object was to close the homes or hospitals that had been established in the past.

While these matters were pending a very serious revelation was made through the Charity Organisation Society. The clerk of the Sandgate council communicated the facts to the Local Government Board on May 29th, 1906. It appears that no sooner were the Jones's homes licensed than letters were written to various boards of guardians inferring that these homes were now all that could possibly be desired because they were licensed and could not have been licensed unless they had conformed to the regulations drawn up by the Sandgate urban council and approved by the Local Government Board. The Board, of course, had no idea of approving or recommending the Jones's homes any more than it recommends common lodging-houses or public-houses that are also licensed. Thus I have before me the text of the letter sent to the Lambeth and the Poplar boards of guardians. At the top in red ink is the following inscription.

> NOTE.—Our Sanatoria for Consumptives are now licensed by the Local Sanitary Authority, under Act of Parliament 5, Edw. 7th, xxx., Ch. clxxxiii., and are also subject to inspection by the Medical Officer of Health for Sandgate.

It need scarcely be pointed out that this note is as correct in letter as it is incorrect in spirit, for the Act quoted has not made the slightest difference in the condition of the homes, and the medical officer of health has no right of entry at night when inspection is most needed. The letter, after mentioning the new Act, says:

> The district council have power to make resolutions subject to the approval of the Local Government Board as to the structure, drainage, and ventilation, the number of patients to be accommodated, and as to the general administration of the homes; and, further, that the medical officer of health for Sandgate has authority to inspect our institutions at any time in the future. We believe that our homes are the only establishments of the kind which have been licensed by a local authority under an Act of Parliament. We should be greatly obliged if you would kindly bring this information to the notice of your guardians.

These letters were addressed to the clerks of the guardians and are signed "The Sandgate Seaside Sanatoria, P. Elvin Rickard, secretary."

Another letter was sent in May, 1906, to the boards of guardians of Faversham, Bristol, and Dudley, and probably many other authorities containing similar assertions to those made above and also this paragraph—

> It is now acknowledged that patients, especially those in the incipient stage, derive material benefit and are sometimes cured by the fundamental remedies—viz., the employment of fresh air and sunshine, of good food, and of regulated hours of exercise and rest—and these are important features at our institutions.

At the recent hearing these assertions were scarcely confirmed by some of the witnesses who had been inmates of the homes in question. Also, it would appear that the Bristol board of guardians was not altogether satisfied, for it wrote for further information and Mr. P. Harold Jones, who signs as "Manager," answered. His letter, dated May 28th, says:—

> The writer was not aware that your board had sent two patients to Sandgate some few years ago, as the present institutions have only been under his control and management for the last two years, during which period you will observe that they have been licensed for the reception of consumptive patients under an Act of Parliament, and are subject to certain regulations of the district council here, whose power extends also to administration generally.

This letter is not so skilfully worded. Instead of saying that the council has the power to make regulations, and leaving the reader to infer that such regulations have been made and enforced, Mr. P. Harold Jones wrote that his homes "are subject to certain regulations of the district council here, whose power extends also to administration generally." This is incorrect, for there are no such regulations in existence; and, in the absence of such regulations, how can the council interfere with the management of the homes? The only change that has taken place in consequence of the new Act is that the Jones family have had, in applying for licences, to supply details as to the buildings in which they proposed to receive tuberculous patients. But in the absence of any sort of regulations or rules the council could not object to any of the homes. The council is of opinion, for instance, that there should be more space outside the homes and that inside they are overcrowded, but as there are no regulations whatsoever dealing with the question of surrounding space and overcrowding what could the council do?

Thus it will be seen that the special Act of Parliament instead of, as anticipated, reforming the Jones's homes out of existence has simply improved and strengthened their position by making it appear as if they were licensed under regulations in which all the greater reliance might be reposed since they had to be approved by the Local Government Board. In reality no such regulations exist; no improvement has been effected as a result. On Sept. 12th Mr. J. S. Atkinson, the new clerk of the Sandgate council, wrote again to the Local Government Board summarising the whole position in regard to the new Act—namely, that Sandgate was a small place ill able to afford the £3000 which the Act had cost and that the Jones's homes were absolutely unsuitable as hospitals for the treatment of tuberculosis, especially considering the poor character of the patients, the absence of any effective control, and the necessity of making a profit out of the small sum paid by the guardians for the paupers whom they sent down. Of course, the same may be said concerning private sanatoriums in different parts of the country. Then on Nov. 2nd the Sandgate council wrote again saying that the time was approaching for the renewal of the licences and that the question of the regulations to be enforced must be decided. On the ensuing 27th the Board replied that it had attended to the matter but found a difficulty in dealing with the draft regulations, so it would send one of its medical inspectors and its architect to visit the homes. In other words, it would hold an informal conference instead of a public inquiry. Accordingly, on Dec. 20th, 1906, Dr. H. T. Bulstrode of the medical department, and Mr. Kitchin, architect of the Local Government Board, arrived at Sandgate. Mr. Jones was informed of the visit and the text of the regulations which the Sandgate council had proposed was shown to him as a matter of fairness.

The Sandgate council, according to the opinions expressed to me by officials in authority, was deeply disappointed with the attitude and views of the representatives of the Local Government Board. The Local Government Board, it was gathered, would not sanction any regulations that in application would probably result in closing one or more of the existing homes. The reason for this is perfectly clear. The Local Government Board, having the public health administration of the whole country in its hands, must look at the general effect of any special action taken. Regulations which would have led to the closing of all the homes at Sandgate, if applied generally, would cause the abolition of half the hospitals for tuberculosis in this country, and many of these institutions are rendering invaluable service though not perfect in structure.

SOME TURKISH LAZARETS

AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

(*With Reproductions of Photographs taken by the Author.*)

VIII.[1]

THE SANITATION AND WATER-SUPPLY OF JEDDAH.

The Importance of Jeddah as a Port of Pilgrimage; its Population.—Lodgings for Pilgrims.—Difficulties in Conservancy.—State of the Town at the Height of the Pilgrim Season.—Type of House in Jeddah.—Municipal Hospital for Ordinary Diseases.—Shed for Cholera or Plague Patients.—Need of Two New Hospitals.—Spring Waters; the Three Principal Sources; Conduits Damaged by Bedouins.—Tank Waters.

IN the preceding articles I have dealt at length, but not, I trust, at so great a length as to be wearisome to the readers of THE LANCET, with the great lazaret of Camaran. In the succeeding articles I shall describe more briefly the sanitation and water-supply of Jeddah and its lazaret, Abu-Saad, and the ports of Yanbo and El Wej.

The port of Jeddah lies about half-way down the Arabian coast of the Red Sea. It is by far the largest and most important town along the whole of that coast. Commercially, it is the principal port of import and export for the whole of the Hedjaz province, but it derives its main importance from the fact that it is only 45 miles from Mecca, and is consequently the gate by which the overwhelming majority of Moslem pilgrims enter and leave that province. A certain number of pilgrims, it is true (mostly coming from the north), land at Yanbo, the port for Medina, which they visit first and thence proceed overland to Mecca. But many never go to Medina at all, and of those who do a large proportion visit Mecca first, and after the fêtes of Kurban Bairam are completed make their way to Medina, either overland from Mecca or by sea from Jeddah.

Jeddah has a permanent population estimated at about 20,000. But for quite two-thirds of the year this number is greatly increased by a floating population consisting of pilgrims going to or returning from the holy places of Islam. At the height of the pilgrim season the figure mentioned is perhaps doubled or more than doubled for several days at a time. If it be asked where this vast mass of pilgrims is lodged the reply must be that the large majority are lodged nowhere; they sleep in the streets, in the open spaces, in any nook or corner or passage where they can lay their heads. A considerable number of houses are set apart as pilgrims' lodgings, but they suffice to shelter only a small proportion of the whole. Some of these houses, known as "Rubats," are charitable institutions founded by rich and pious Moslems for the free use of their countrymen. There are several for Indian pilgrims; one of the largest was founded five years ago by the Begum of Rampur and consists of three adjoining houses made into one. Others are assigned to the use of Javanese, Malayans, and pilgrims of various nationalities. These houses are of the type of the other Jeddah houses referred to below. They are registered as lodgings for pilgrims by the local authorities and are each year cleaned and whitewashed inside before the arrival of the pilgrims. But, as just stated, they can only accommodate a small fraction of the whole number, and the rest live, cook, eat, sleep, and perform all the other ordinary functions of life in the open air. It is obvious that a town under such conditions presents many serious problems in sanitation, and I propose in this chapter to consider briefly how these problems are, or are not, solved before passing to a description of the Jeddah lazaret (better known as the lazaret of Abu-Saad-Wasta).

The sanitation of Jeddah is in the hands of a municipality. Conservancy is, perhaps, one of the most formidable difficulties with which this authority is faced, when the town is swarming with pilgrims in the manner just described. The municipality possesses only 12 conservancy carts. For the short period that elapses between successive pilgrimage seasons these may perhaps suffice. At the moment, indeed, of my arriving in Jeddah—on the actual eve of Bairam—the streets were remarkably clean. Half of the population or more had gone to Mecca for the fêtes and the town had a markedly deserted appearance. The bazâr was silent and almost empty; the few inhabitants remaining put on their best clothes (and an Arab's best clothes are very beautiful garments indeed, of soft-hued silks and cloths) and amused themselves decorously by going off to the many pilgrim ships lying idle in the roads, by visits to the mosques, or by playing games of ball in the streets and open places. Conservancy offered no great difficulty in such circumstances. A week or ten days later, when the caravans began to flow back from Mecca, the conditions were, however, very different. The bazâr, through which the main street of the town runs, became a solid mass of Oriental humanity, through which the caravans—endless streams of camels, tied head to tail, and each carrying two or more pilgrims in gigantic litters or "shugdufs"—slowly forced their way. The open squares and spaces were soon covered with pilgrims camping out, with or (mostly) without tents or other cover, pilgrims of many nationalities—Arabs, Indians, Afghans, Central Asiatics, Javanese, Malayans, Chinese, Tartars, Moors, Egyptians, and many another race. A more interesting or more picturesque sight it would not be easy to find elsewhere. The streets of Jeddah themselves are as picturesque as those of any Indian city, which is saying much, and peopled with this many-hued and diverse-featured crowd of Hajjis fresh from Mecca they form a spectacle that is perhaps unique in the world.

But, to return to the sanitary aspect of the matter—the only aspect that can be considered here—it soon became evident that the provision made for the sanitary wants of this vast crowd was sadly inadequate. Public latrines and urinals are almost wholly wanting; the pilgrims attended to the calls of nature anywhere and everywhere. The 12 conservancy carts, though working night and day, seemed to make no impression on the truly lamentable condition of the streets and open spaces. Human excreta lay about on every side, and as thousands of fresh pilgrims kept pouring into the town more quickly than the daily departing pilgrim steamers could remove them the conditions became more and more offensive.

The provision of water to this fluctuating population is another problem presenting peculiar difficulties in this comparatively rainless region; but as the water-supply of Jeddah is a somewhat complex question and one of which I endeavoured to make rather a special study it will be dealt with in some detail.

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[1] Nos. I., II., III., IV., V., VI., and VII. were published in THE LANCET of April 27th (p. 1188), May 4th (p. 1251), 11th (p. 1317), and 18th (p. 1389), and June 1st (p. 1516), 8th (p. 1607), and 22nd (p. 1741), 1907, respectively.

The houses of Jeddah are usually large and several storeys in height. They are mostly built of the madreporic stone found in the neighbourhood, covered outside with a lime-plaster. The projecting windows and balconies are of wood, elaborately carved in fantastic and often beautiful designs, giving to the narrow streets that strikingly picturesque appearance to which I referred above. Many of the larger houses, known as "hoches," have one or more courtyards and consist of vast warehouses (for grain, carpets, dates, and all other kinds of merchandise), shops, and dwelling-rooms, all more or less under the same roof. The dwelling-rooms in many instances (but by no means in all) are rather small and dark. The closet is usually in a dark and badly ventilated corner; the excreta pass thence to a cesspool in the courtyard. In many of the courtyards there is a shallow well, and in some a rain-water cistern, of which mention will be made later.

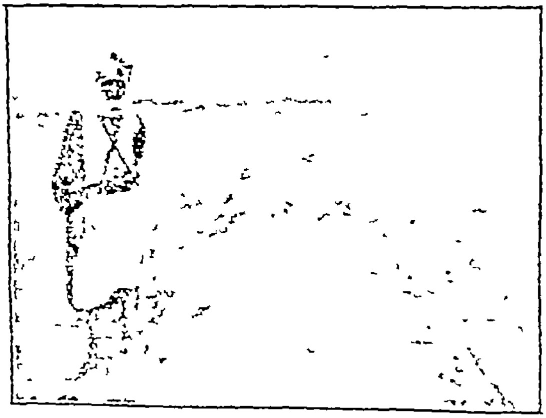
The hospital accommodation provided in Jeddah is quite inadequate to the needs of the place. There is a small municipal hospital situated just inside the wall that completely surrounds the town on its eastern side and not far from the Mecca Gate. It is a one-storey structure built against the town wall. It contains two small wards for 12 and eight patients respectively; the wards have no flooring, their floors being of beaten earth. Close by is a wooden shed in bad condition used for dysenteric patients; it is almost entirely without furniture. In brief, this hospital—though those in immediate charge of it have apparently done their best with the limited means placed at their disposal—is altogether too small and too primitive for a town like Jeddah, with its vast floating population. The Inspection Commission in its report consequently urges the Turkish Government to build a large general hospital capable of holding 150 or 200 sick and suggests a suitable site where it might be built. It further points out that the occasion would lend itself admirably to the generosity of some rich and pious Moslem (and there are many such in eastern countries) who could do no more useful act to his fellow believers than to found and to endow a good hospital in Jeddah. Whether this suggestion will ever bear fruit time alone can show.

The hospital accommodation for cases of cholera, plague, or other infectious diseases is even more inadequate than for those of ordinary diseases. When plague broke out in Jeddah in 1897 a large wooden shed was put up as a plague hospital on an open space in the south-west corner of the town. The skeleton of this shed still remains. Since outbreaks of plague and cholera are by no means rare in Jeddah the Commission strongly urges the Turkish Government to put up an isolation hospital capable of holding from 30 to 40 patients. During the past summer a rather persistent epidemic of plague occurred in the town but up to the present no steps have been taken to carry out the recommendation of the Commission on this point.

The question of the water-supply of Jeddah has for years past presented difficulties and its inadequacy has been the subject of frequently repeated complaint. The town has been constantly threatened with a water famine, and what that means in a tropical climate and an insanitary town may be readily conceived. During a stay of 19 days there (the main object of which was the inspection of the Abu-Saad lazaret, to be described subsequently) it became possible to collect much interesting information on this question—information which has been embodied since my return in a printed report which has been presented to the Board of Health and which may be summarised here as follows. The water-supply of Jeddah is of three different kinds—so-called spring water, rain water collected in large tanks, and well water.

Spring water.—The sources of this water are, it would seem, rather underground collections of rain water than true springs. They are mostly situated at a considerable distance from the town. There are only three that need be mentioned here. They are the following. 1. The Aïn Hamidieh or Bir Viziєh is situated some 11 or 12 kilometres to the south-west of Jeddah. The water is, or was, brought to the town by a masonry conduit which has, however, been constantly cut and damaged by the Bedouins. It was last repaired in 1902 but was soon damaged again, and at the present time not a drop of this water reaches the town unless it be on camel back or donkey-back. It is said that the water at the source itself has sunk considerably (one of my informants said as much as two metres) below the level of the conduit. In any case the reservoirs in the town to which this water should be supplied were quite dry in February last. There are five of these reservoirs. One of them is about four and a half metres long, three and a half metres wide, and three metres deep, built in masonry, covered with plaster. This water is (or, rather, should be) conducted first to a small open reservoir by the side, where it should deposit some of its grosser solids before entering the larger cisterns. At one side there was at one time a row of taps; they no longer exist. This cistern is covered over with a roof of armoured cement in which is a man-hole; the interior was absolutely dry and the bottom littered with rubbish. The state of the other cisterns in the town was said to be much the same. A small quantity of this Hamidieh water was, as stated above, brought to the town in skins mostly carried by camels. A camel-load is reckoned at 16 small skins or four large ones. A small skin is supposed to hold about ten litres (rather over two gallons) of water. A load is therefore about 160 litres. The load of Hamidieh water was sold at 15 piastres (about half-a-crown). The quality of the water is said to be fairly good and it never becomes brackish, as do some other waters in these regions. 2. The source known as the Aïn Bariman is situated to the north of the town some five hours (others said eight hours) away. In passing it may be stated that the wish to visit any of these sources was impossible of fulfilment. Since the attack by Arabs on the foreign Consuls in 1895, when the British Vice-Consul was killed and several of the Consuls were wounded, the Turkish authorities permit no Europeans to go any distance outside the town, and even when permitted to go a short way into the desert they must be accompanied by an armed escort. This source is said to be in the form of a large, deep well; there is no conduit and the water is brought to the town in old petroleum tins (which are considered preferable to skins) by camels or donkeys. It is said to be the best of the waters supplied to Jeddah, but the yield is small—not more than five or six tons a day—and the price is relatively high. A petroleum tin (it may be added, in passing, that in the Near East there is almost no use to which an empty petroleum tin may not be put) is reckoned to hold about 17 or 18 litres; a tin of Bariman water sells for two and a half piastres; a load of 160 litres would therefore cost 22 or 23 piastres (say 3*s*. 10*d*.). 3 The Aïn-Faradj-Yassur is situated six or seven hours to the east of Jeddah. It has a large conduit, which is seen in Fig. 28; it is of masonry and its inner dimensions are about 32 inches by 20 inches. It is constantly being damaged by the Bedouins or others; the photograph was taken purposely at a spot where such damage can be seen; the last time it was repaired was in 1899. The conduit enters the town close to the Mecca Gate, where it passes through the bottom of a deep wall and is thence continued to a central depôt situated in what is known as the Yemen quarter of the town. A portion of this depôt is seen in Fig. 29. It has the form of a deep square depression or pit, about 20 feet square and some 25 feet deep, with masonry walls, covered with plaster. At the bottom, all round the walls, is a series of small reservoirs in cement. A wide stone

FIG. 28.



Conduit outside Jeddah damaged by Bedouins.

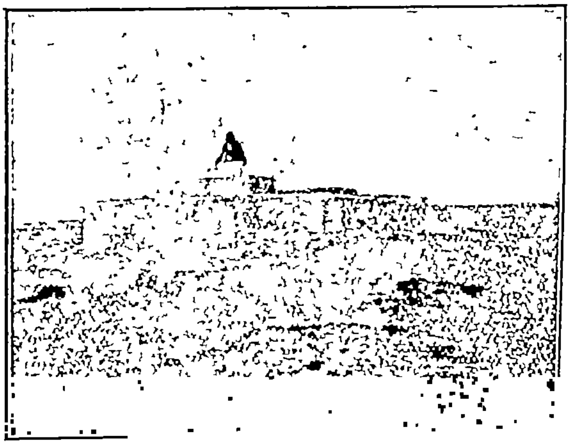
staircase leads down to them. When I visited the depôt the reservoirs were completely empty; the door leading to the stair was locked, and the bottom of the depôt, as also the reservoirs, was littered with débris and rubbish. The quality of this water is said to have been good; it was sold at one and a half piastres the small skin.

FIG. 29.

Reservoirs for Ain-Faradj-Yassur water, Jeddah.

Tank water.—One of the most striking features in the desert outside Arab towns, such as Jeddah, Yanbo, or El Wej, is the presence of vast masonry tanks or cisterns, more than half underground, and intended to hold and to store rain-water. Rain is comparatively rare in these regions, but when it does fall it usually falls in large quantities, and these tanks are constructed of a size and in number sufficient to hold two, or even three, years' supply. The external appearance of one of these cisterns is seen in Fig. 30.

FIG. 30.



Rain-water tank ("Sahrij") outside Jeddah.

They are large, often immense, structures in masonry, coated with plaster outside and with cement or "tap-tap"[2] inside, and roofed over with a masonry arch, in which there are usually several manholes. The largest tank that I saw was about 40 metres (130 feet) long and 12 metres (40 feet) wide; others are said to be still larger. These tanks are intended to collect the rain water from the surface of the desert around them; there are no actual conduits to collect the water but it can generally be seen that the sandy surface has been worked more or less all round, forming channels and low embankments, and here and there are rudimentary works in masonry, all intended to direct the flow of the surface water towards the cisterns. At one end or one side of the cistern is a small open reservoir (sometimes there are several) where the waters first collect and deposit their grosser solids. I visited the interior of one of these tanks (in the desert near Yanbo). The entrance was by a door leading to a stone staircase, which descended to the bottom of the cistern; the total depth was about seven metres (22 feet). At that time there was only about a foot of water, but, the cistern being a very large one, that was equivalent to about 120 tons. The water appeared fairly clean; it was mainly drunk by the troops garrisoned close to the Medina Gate of Yanbo. Officers and men assured me that the water was then quite good but that it would steadily deteriorate during the summer and that if no rains fell in the winter there would be danger of a water famine. Fortunately, heavy rains fell in November all along the Arabian coasts of the Red Sea and both at Yanbo and at Jeddah the tanks must be now well filled again. At Jeddah, at the time of my visit, the tank water was nearly exhausted; it had frequently a bad smell; and during the past summer I learned from letters that it had become absolutely intolerable. Most of these tanks belong to private individuals who make a good income from the sale of the water. These persons are said hitherto to have opposed every effort to supply Jeddah with a purer water and it is more than probable that the damage to the conduits of the spring waters (referred to above) is by no means always done by Bedouins, but may sometimes be ascribed to tank owners jealous of competition. There are a few small tanks in the town itself situated in the courtyards of the houses. They usually collect the rain-water from the roofs, but some houses have large cisterns which are filled by water brought into the town from the sources or springs outside.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE medical examinations are now over and the greater part of the ordinary work of the summer session is finished. One candidate, L. G. J. Mackey, secured the M.D. degree. At the final examination for M.B., Ch.B. eight candidates succeeding in passing the examiners, and James Fenton was awarded both the Ingleby scholarship, for highest marks in gynæcology and midwifery, and the Queen's scholarship, for the highest place in the examination. Seven candidates passed the fourth examination and John Dale, who was placed in the first class, gained the Queen's scholarship. In the third examination, which includes pathology and materia medica and pharmacy, nine candidates passed, and the Queen's scholarship for highest place was awarded to Herbert Henry Sampson. In the second examination six candidates passed and O. M. Holden secured the Queen's scholarship. The Board of Education has approved the proposal of the University to take over the residential part of Queen's College for the purposes of a residential hall for students of the University. The experiment will therefore proceed and if it is successful it will have far-reaching and very beneficial effects on the University life of future students. Professor Kirkaldy, who has already shown so much interest in the social welfare of the students, will be warden, and this is a sufficient guarantee that everything will be done on the highest possible lines. There will be accommodation for about 40 students and the fee will be 20 guineas a term. Students who are wise and who wish to obtain all the benefits of university life should secure rooms as soon as possible, and parents who wish their sons to live in the city during the terms should not miss the opportunity of securing places for them in the hostel.—The golf match between the University and the city has resulted this year in a victory for the University.

The Hospital Saturday Fund.

Nominally June 15th was Hospital Saturday but actually the collection of the money extends over several weeks and it is not yet certain what the total amount will be. For several years the committee has endeavoured to raise the collection to £20,000, and year by year it has gradually risen until last year it was only £700 short of the desired sum. This year the hopes of the committee are high, for the early returns have been very favourable and some of the subscriptions have been greatly increased; on the other hand, however, there are some notable diminutions which have necessarily followed from alterations in trade, circumstances which must always occur in a busy manufacturing centre, but on Saturday last the total amount had already reached the sum of £18,329 1s. 9d. The committee gives £10,000 each year to the local hospitals, sends consumptive patients to St. Leonards, and maintains convalescent homes in which 3035 patients were received last year. It is obvious that the collection of so large a total, which is made up of multitudinous small sums, is only secured by a large amount of work and excellent organisation, for which Sir William Cook and his committee deserve the sincere thanks of the city.

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[2] The nature of "tap-tap," as employed for roofings, was described in an earlier article (May 11th, p. 1320); its composition when used for lining tanks is slightly different.

The Royal Institution for Deaf and Dumb Children.

The annual report of the above institution is a record of successful work upon which the committee can be congratulated and for which it deserves better support than is indicated by an excess of expenditure over ordinary income to the extent of £118, and that after £250 had been transferred from legacies and special donations to income account to meet the requirements of the Board of Education that one-third of the annual expenditure shall be derived from voluntary subscriptions if the certificate of the society is to be continued. The institution deserves better support, for it prepares children to make their own livings when they leave at 16 years of age and very few of those who have passed through it have failed in after life.

The Wolverhampton Nursing Institution.

This institution has had another successful year which left it with a balance of £42 at the end of April last. It maintains a staff of 33 trained nurses and during the year it treated 302 cases which were under the care of 85 medical men. The committee of its district nursing branch has decided to establish a centre for the training of pupils for the examinations of the Central Midwives Board and at a recent meeting it was stated that the legacy left by the late Miss Perry would enable the institution to purchase more land close to the institution and to erect additional buildings; it may be presumed, therefore, that the scope of the institution's work will be increased.

The Necessity for Better Mortuary Accommodation at Rugby.

If the account published in one of the daily papers is correct in all details the authorities at Rugby have failed to appreciate their duties and should take the matter of proper mortuary accommodation in hand at once, for it is stated that the room at the cemetery, in which a post-mortem examination had to be made, was so badly lighted that the door had to be left open, exposing the operating table to the public gaze. This is certainly a condition of things which ought not to be tolerated at the present day.

June 25th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Reception at the University of Liverpool.

AN exceedingly interesting social gathering, in the form of a reception, took place at the university on June 14th. Invitations to inspect the admirably arranged group of buildings had been sent to the Lord Mayor and Lady Mayoress, the members of the city council, members of the education committee, the head-masters and head-mistresses of secondary schools, and to others interested in higher education. The guests were received by the Pro-Chancellor and the Vice-Chancellor. All the buildings were thrown open for inspection and members of the University staff were present in each department to explain everything on exhibition. The various laboratories attracted keen attention, the Thompson-Yates and Johnston laboratories (pathology and physiology) proving especially engrossing, while the zoological section controlled by Professor Herdman claimed general notice. An exceptionally interesting feature of the proceedings was the exhibition of a series of experiments with liquid air given by Professor Wilberforce in the physics theatre. This department was controlled for upwards of 20 years by Sir Oliver Lodge.

The Prevention of Hospital Abuse.

The principal Liverpool hospitals, with one exception, have agreed to hold a conference with the view to prevent the abuse of charity by persons able to pay for medical treatment. The question is one of interest not only to managers of hospitals but also to members of the medical profession. The object of the conference is to discover whether there is an abuse of charity and, if so, to what extent. Unless all the hospitals fall into line as to a united course of action a satisfactory solution of the difficulty cannot be clearly obtained. The fact of one hospital not making inquiry as to the means of applicants will swell the statistics of attendances at that particular charity, whilst probably reducing those at other hospitals. A wrong impression may thereby be given to the philanthropic of the respective usefulness of the different charities. It is to be hoped that the committee of the unwilling hospital will reconsider its position in the matter, especially as the other hospitals are acting purely for the public weal.

The Health Committee: Notification of Anthrax; Health Statistics.

The following resolution of the city council was approved by the Local Government Board on June 11th:—

> That the council as the urban sanitary authority of the city of Liverpool do order that the provisions of the Infectious Disease (Notification) Act, 1889, shall apply in their district for three years to anthrax and that such order shall come into operation immediately after the expiration of one week after the publication of the first advertisement of the order as approved by the Local Government Board.

At the last meeting of the health committee the medical officer of health reported that the death-rate of the city was only 16·2 per 1000, as against 16·4 per 1000 at the same period of last year.

Providence Hospital, St. Helens.

The annual report of the *Providence Hospital*, St. Helens, has been issued, in which the treasurer records the fact that systematic voluntary weekly collections have now been organised at several of the workshops and manufactories in the town and also at one of the large collieries in the neighbourhood. Already considerable assistance has been obtained by this means and it is hoped that arrangements may shortly be completed for bringing the whole of the works into the scheme. Included in the hospital receipts is a sum of £366 1s. 6d., representing the penny a week subscriptions which are collected by a band of ladies, the amount representing 87,858 pennies.

June 25th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Appointments to the Staff of the Edinburgh Royal Infirmary.

AT the meeting of the board of managers of the Edinburgh Royal Infirmary held on June 24th, Dr. D. O. Watson was elected junior assistant physician, and Mr. W. J. Stuart, F.R.C.S. Edin., junior assistant surgeon to the institution. Much interest was taken in the somewhat keen contest for these posts.

Memorial to Dr. James Finlayson.

The anniversary of the opening of Trinity Church Children's Convalescent Home was held at Ravenscraig last Saturday afternoon, when a ward was inaugurated in memory of the late Dr. James Finlayson. The home, which has now been open for 17 years, was established for the benefit of the sick children of the city of Glasgow, and during that time over 2200 children have passed through it. The home has from its inception been associated with the Sick Children's Hospital and under its direct medical control. The annual expense of maintaining the home amounts to £300, which is met by the members of Trinity Church. Sir Hector Cameron in naming the new ward after Dr. Finlayson referred to his valuable services to the home during the last 17 years. He thought it was peculiarly appropriate that a ward in a children's convalescent home should be permanently associated with the name of Dr. Finlayson. By his work and contributions to the literature of the subject he was recognised as one of the leading authorities on children's diseases and he had been one of the first to support the establishment and equipment of children's hospitals. At a later part of the proceedings a portrait of Dr. Finlayson was unveiled.

The Sanitary Association of Scotland.

The annual congress of the Sanitary Inspectors' Association of Scotland was held last week at Dunoon, when the President, Mr. George Dunne, delivered an address on Sanitary Progress and Holiday Resorts. Papers were also read on Some Aspects of the Food and Drugs Act and the Ventilation of Sewers and Drains. Visits were paid to the hospitals, waterworks, and refuse destructor of the district.

National Conference on Sweated Industries.

A good deal of interest is being taken in the arrangements which are being made for the National Conference on Sweated Industries to be held in Glasgow on Oct. 11th and 12th. Seeing that the subject bears so directly on public health, housing, and general sanitation, it is to be hoped that as the result of the conference some legislative remedies may be suggested to deal with the evil.

Suggested Case of Ptomaine Poisoning.

In the Court of Session a rather curious case has arisen where interdict is sought by the proprietors of a Glasgow restaurant to prevent the widow of a man recently dead from circulating a statement that her husband's death was attributable to ptomaine poisoning consequent upon his having partaken of food supplied in the restaurant. The first intimation received by the complainers was a claim for £10,000 by the respondent in respect of the death of her husband, which took place on May 27th as the alleged result of a lunch partaken of on May 17th. The claim was made and the story circulated without any inquiry being made of the proprietors of the restaurant, who state that the soup was made fresh on that day, of the best material, and supplied to over 100 customers without a word of complaint. Further, on examining the body of the deceased after exhumation, death was found to be due to cerebral hæmorrhage.

Competency of a Ship's Surgeon.

A case has been decided in Glasgow Sheriff Court in which a seaman sued a firm of ship-owners for £400 as reparation in respect of loss, injury, and damage sustained on board one of their steamers. The case for the pursuer is that he was dashed by a wave against an iron ladder and injured. The ship's surgeon who saw him on several occasions said that he was suffering from bruises, but after his return he was treated in an infirmary for compound fracture and dislocation of the shoulder. The pursuer held that the defenders were liable in reparation on the ground that the surgeon was incompetent and that with ordinary care he could have properly diagnosed the injury; also that it was the duty of the defenders to appoint a surgeon of skill. In dismissing the case as irrelevant the sheriff said that the Merchant Shipping Act, 1904, Section 209, directed defenders to carry a duly qualified medical man, and it was admitted that the ship's surgeon was a qualified practitioner. That being so, the sheriff thought the statement of the pursuer would need to go a great deal further before he disclosed a case for inquiry.

Death of Mr. George P. Alexander, Forfar.

Mr. George P. Alexander, Forfar's oldest medical practitioner, recently died with startling suddenness at his residence. He had been out visiting a patient and while returning home he became suddenly ill, and was carried to his house where he expired almost immediately. Death was due to heart failure. The deceased was a native of Dundee and attended the University of Glasgow. Early in his career he settled in Forfar and acquired an extensive practice in the burgh. In the volunteer movement he evinced a deep interest and retired last year with the rank of surgeon-lieutenant-colonel of the 2nd V.B R.H. (Black Watch). Mr. Alexander was also a life director and a visiting surgeon of the Forfar Infirmary. He was 72 years of age and is survived by a widow, three sons, and a daughter.

Handsome Gift to Paisley Infirmary.

The honorary secretary of Paisley Royal Alexandra Infirmary has received a cheque for £3750 from the agents of Mrs. Borra Paterson, Buenos Ayres, for the endowment of three beds in the hospital. One of the beds is to be dedicated to the memory of Robert Coats Paterson (a native of Paisley) who died at Buenos Ayres in February, 1906, and the others are to be in memory of his father and mother.

Appointment of Medical Officers for Stornoway.

Dr. D. Murray (Stornoway) and Dr. Mackinnon (Stornoway) have been appointed by the Stornoway parish council to fill the vacancy caused by the death of Dr. Macdonald, medical officer of the Landward division. The Local Government Board had approved of the council's proposal to appoint separate officers for the two wards of the Landward division, apportioning the present salary equally between them. Dr. Murray was appointed for the Point and Dr. Mackinnon for the Back district.

Aberdeen: Low Death-rate among Infants.

The death-rate per 1000 in May last among children under one year of age was 70·73, as compared with the average for May in the previous five years of 142·72. Dr. Matthew Hay, medical officer of health of Aberdeen, in his monthly report states that the deaths from tuberculous meningitis reached a higher level last month than in any preceding recent month and is a little significant in view of the occurrence of cerebro-spinal fever in Scotland. Every suspicious case of cerebral illness was examined by lumbar puncture when permitted, but in no case was the germ characteristic of cerebro-spinal fever found. No connexion was known to exist between the children who died from tuberculous meningitis during the month. None of the cases died with much suddenness, the shortest duration or obvious illness in any case being seven days. In the others it varied from 14 days to three months.

June 24th.

IRELAND.

(From our own Correspondents.)

Death of Dr. E. H. Bennett.

In Dr. Edward Hallaran Bennett, one of the few Honorary Fellows of the Royal College of Surgeons of England, the medical profession has lost a very distinguished exponent of our art and science. The funeral took place on Monday last, June 24th, at Mount Jerome Cemetery, the funeral service being performed by the Rev. Charles Dowse, rector of Christ Church, Leeson Park. A number of students of the Medical School of Trinity College, Dublin, in which the deceased was professor of surgery, walked in procession behind the hearse, while the Royal College of Surgeons in Ireland, of which Dr. Bennett was formerly President, was represented by the present president, Mr. H. R. Swanzy, and many members of the council of the College as well as Mr. J. Barton, the secretary, and Mr. G. F. Blake, the registrar.

Health of Belfast.

It is to be regretted that both in number and in severity the cases of cerebro-spinal fever in Belfast show no improvement. At a meeting of the public health committee held on June 20th it was reported that there had been 17 cases of the disease during the week ending June 15th, as compared with 13 for the previous week, while since June 13th 17 cases have been reported. During the week ended June 15th 15 deaths occurred from the disease. Of 81 patients in Purdysburn infectious hospital during the week, 36 were suffering from cerebro-spinal fever and four deaths took place. Cases of measles are also at present on the increase in Belfast. The medical officer of health has reported difficulty in obtaining a suitable house for the purpose of establishing a dispensary for dealing with consumption, as owing to objections having been raised the authorities were prevented from occupying the premises selected by the committee in Great Victoria-street. "It appeared [as it is reported in the public press] that a great deal of the opposition to the proposed dispensary arose from medical gentlemen." A subcommittee was therefore appointed to look out for another house. The facts are as follows. The public health authorities entered into negotiation with an agent for a house in a terrace in Great Victoria-street, a residential district, where a good many members of the medical profession live, and the matter was almost settled, when it came to the ears of the owners that the people in the neighbourhood—not medical men alone, but a large number of the inhabitants—objected very strongly, and as a consequence the negotiations were broken off. What really prevented the house being let for the purpose was the risk of a consumptive dispensary injuring the letting value of the houses. Now that the corporation has entered into an arrangement with the Forster Green Hospital to admit consumptive patients the wise thing would be to utilise the existing dispensary in connexion with that institution and not to spend money in establishing another one.—Owing to the evidence brought before the Health Commission in regard to the state of the Belfast ashpits the health committee wisely threw out the suggestion of replacing them by ashbins and it summoned a number of rent agents to discuss the matter. On June 20th the chief clerk read a letter from a firm of rent agents. to the effect that they considered that ashpits, if properly covered and fitted with cleaning doors in the yards, would be much safer than portable bins, particularly in small property. They had introduced the bin already into some better-class property and it had not given satisfaction. Therefore they were not prepared to fall in with the proposal to adopt the dustbin in place of the ashpit. If something could be done to compel some tenants to keep themselves and their houses cleaner it would, in their opinion, have the effect of considerably improving the health of the city.

The Weather.

Not for many years—some say since 1879—has there been such a wet cold summer in the North of Ireland, and, unfortunately, there is up to the present no prospect of any change. The farmers are complaining very much of the injury being done to their crops, especially to potatoes.

Death of Mr. James May Elliott, L.R.C.P. & S. Edin.

It is with sincere regret that I record the death at his residence, Rathfriland, county Down, of Mr. James May Elliott after a long and painful illness, during which he showed the most Spartan qualities in attending to his work up to a few weeks before his decease. Mr. Elliott, who was a nephew of the late Dr. Joseph May of Rathfriland, studied in Dublin and at Anderson's College, Glasgow. After obtaining the qualifications of the Edinburgh Colleges of Surgeons and Physicians Mr. Elliott settled down in practice in Rathfriland, where for the past 26 years he has been dispensary medical officer, having succeeded in that post his uncle. A kindly, genial gentleman with a great fund of native humour, he was greatly beloved by his patients, and especially by the poor, for the extremely conscientious discharge of his varied duties. He leaves a widow and four sons; all the sons are qualifying for the learned professions.

June 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Artificial Radio active Baths.

AT the Therapeutical Society M. Dupont has recently described the advantages of treatment by artificial radio-active baths. These are employed at various hot-water spas where by means of submerging the light the thermal and chemical action of the water can be combined with the therapeutic activity of the rays of the spectrum. The necessary apparatus is very simple; the wall of the bath is fitted with port-holes behind which are placed electric arc lights; coloured glass screens can be used to tint the luminous rays which can be focussed on the patient by means of lenses. This procedure permits of the employment of the ultra-violet rays of the spectrum. The same sources of light can be used for douche and luminous vapour baths.

An Auxiliary Treatment in Intestinal Perforation.

At the Academy of Medicine on June 11th M. Chantemesse described a new means in the treatment of intestinal perforations. Up to now early operation has been the only thing to be done for these conditions. The great difficulty has been to decide whether a perforation exists; the signs of perforation are those of peritonitis and often that condition is alone present. This may be guarded against by the administration of hypodermic injections of nucleinate of soda which produces a marked leucocytosis and is a good means of meeting peritonitis when that condition is declared; the pain disappears, the abdominal rigidity is diminished, and the temperature falls. The dose used is 40 cubic centimetres of a 1 per cent. solution in physiological saline. At the end of 24 hours there are sometimes slight swelling and temporary redness at the seat of injection; two or three days later a second injection is made, and still later a third in diminishing doses.

The Proposed Tour of French Watering-places and Spas for the Purpose of Medical Study.

The ninth tour for medical study will take place from August 31st to Sept. 12th of this year. It will include the eastern resorts and those of the Jura—viz., Sermaize, Vittel, Contrexéville, Martigny, Bourbonne-les-Bains, Luxeuil, Plombières, Géradmer, La Schlucht, Bussang, the Ballon d'Alsace, Besancon-Mouillère Salins, Laons-le-Saulnière, La Faucille, and Divonne. As in previous years the tour will be under the direction of Dr. Landouzy who will organise conferences at the various places on the subject of treatment by hydrotherapy. The railways will allow a reduction of half cost on all fares between the homes of those who attend and the meeting place which is to be Reims. Medical men from other countries will be allowed this reduction from the time of leaving the station where they first touch French territory, and a like reduction will be made at the end of the tour at the place of disbandment, which will be Divonne, in returning to the station from which the start was made. The whole expense from Reims to Divonne will be 300 francs, which will include railway fares, carriages, hotel accommodation, food, carriage of luggage, and gratuities. The journeys will be made by first-class special train. Eleven "travelling scholarships" (*bourses de voyages*) are to be given this year, of which one was specified by its founder to be given to an English medical man. For full information application should be made to M. Carron de la Carrière, 2, rue Lincoln, Paris. The latest day for receiving applications will be August 17th.

The Influence on the General Nutrition of the Rapid Displacement of the Air in Motoring.

At the Academy of Science on June 3rd M. Haller read a note by M. Mouneyrat in which the author studied the influence exercised by the use of the motor-car on the general nutrition of healthy people and of those suffering from anæmia and neurasthenia. His researches dealt with the number of red corpuscles and the amount of hæmoglobin and of the principal urinary constituents. Under the influence of the current of air produced by the motor the proportion of red corpuscles and of hæmoglobin increases considerably in both healthy and anæmic people, and at a moderate pace the motor affords an excellent treatment for the latter; chlorotic cases do equally well. Motor exercise has a remarkable effect on sleep, and in neurasthenics this function quickly becomes normal again. People with chronic constipation become much more regular in their habits under this influence. Gouty and arthritic cases derive marked benefit from the use of the motor-car. Patients with tuberculous lesions that are undergoing sclerosis as a rule derive considerable benefit from moderate motor-car exercise if they are careful to take it in fine weather and are protected by a glass screen. With regard to heart disease only those patients whose lesions are compensated ought to be allowed to use the motor-car and these ought never to be unaccompanied; the presence of an aneurysm, especially of the aorta, forms an absolute contra-indication to the use of the motor-car. Patients with varicose veins and hæmorrhoids do not stand it well.

Severe Gunshot Wounds of the Lung; Operation.

M. Ombredanne has had under treatment a patient suffering from a gunshot wound in the region of the heart. A little blood was escaping from the wound of entry which was situated two centimetres to the left of the left nipple. There was obviously a wound of the lung with hæmothorax, and a spinning-wheel sound (*bruit de rouet*) suggested the presence of a hæmo-pericardium. M. Ombredanne cut a flap of skin and muscle with the wound orifice in its centre, and resected the fourth, fifth, and sixth cartilages; the lung presented in the wound with a gush of black blood, and on its anterior surface was seen a hole of the size of a franc piece from which blood was spurting freely. M. Ombredanne ligatured this and a second wound that he discovered; when the pleural cavity was dried out the pericardium was found to be uninjured. The thoracic flap was replaced and sutured and a drain was placed in the pleural cavity. The patient did not make an uninterrupted recovery, but at the end of three months he had quite recovered. M. Duval has reported a very similar case with a like successful result. Both were recorded by M. Delorme at the Chirurgical Society on June 5th.

Council Meeting of the Faculty of Medicine.

The last council meeting of the Faculty of Medicine passed a very important resolution which provides that henceforth the holders of the posts of physician, surgeon and physician-accoucheur on hospital staffs shall be ineligible to hold professorships of anatomy, histology, physics, chemistry, and

died from meningitis, now only 25 per cent. of the fatal cases succumbed to that complication. The causes of death were now mostly either general sepsis or abscesses in the lung, liver, or spleen; formerly meningitis was chiefly responsible for the fatal results. Improved diagnosis of "otitic sepsis" or "pyæmia" would allow of earlier surgical intervention, so that the mortality might be still further reduced. Perhaps surgical treatment of otitic meningitis itself would be made possible. Several surgeons (Alexander, Neumann, and Körner) have tried, but have failed to find a satisfactory method for this purpose. Ligature of the jugular vein was an easy operation; a preparation of the vessel was made just as in the anatomical theatre and there was no shock whatever, because the nervous network surrounding the vessel was either injured or reduced in its vitality in consequence of the inflammation of the walls of the vessel. The fistula, leading from the skin to the vein, closed, if allowed to do so, in from eight to 14 days after the last particle of the thrombus had disappeared.

Successful Treatment of Lymphatic Leukæmia.

A few cases of successful treatment of lymphatic leukæmia are on record and the number has now been increased by that of a patient who was shown by Dr. Kienböck at a meeting of the Society for Internal Medicine in Vienna. The patient, a man aged 34 years, had been suffering for the past four years from swellings of the glands and increasing weakness. Two years ago an examination of the blood showed the presence of 5,000,000 red corpuscles and 165,000 leucocytes per cubic millimetre, whilst the hæmoglobin was only 16 per cent. The spleen reached a point five fingers' breadth below the costal arch. Systematic treatment by the x rays was applied in ten periods, each lasting from two to four weeks. The glands, the spleen, and the long bones of the extremities were exposed one after the other and each sitting lasted from 20 to 24 minutes. The immediate result of the application was the production of some toxic initial symptoms—namely, nausea and vomiting with an increase of temperature to 38° C. (101° F.). The leucocytes increased in number at first because they were being expelled into the vascular system, but after a few days they diminished considerably and rapid improvement followed, so that the patient was able to resume his occupation. The number of the red corpuscles has remained constantly between 4,000,000 and 4,250,000 and that of the leucocytes under 25,000 per cubic millimetre; the glands also required only every few months one or two exposures to the rays of a few minutes' duration. If the patient abstained from treatment for longer than four months the glands became visibly larger. The man was now practically as fit for work as he was five or six years ago. A quantitative estimate of the x rays, or rather of the electric energy, employed was made by means of strips of specially prepared paper which changed colour according to the amount of the rays acting on them. This was found to be the most convenient of the various colorimetric appliances because most of the others required a power of comparing colours which medical men did not always possess, whereas the paper strips showed different colours, not different shades of the same colour.

June 24th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Children and the Hygiene of Schools.

A WELL-KNOWN Hungarian journal devoted to subjects connected with the teaching profession has published a discussion on the relationship of physical, intellectual, and moral growth and development. In this article it is strongly urged that at whatever point in the educational system a boy has to stop in order to take up his life's work, up to that point his training should be broad and symmetrical; the training of the body should be recognised to be as important as that of the mind. The schoolroom should be large in proportion to the number of scholars, well lighted, and so arranged that the light enters on the left-hand side of the pupils as they are placed when writing. Good ventilation is important; the current of air should pass from inlets high up on the wall to outlets low down on the same wall. the temperature should be between 16° and 18° C. (62° and 67° F.) for the older children and 19° C. for the younger ones. The rooms should be heated by indirect radiation. In addition to the class-rooms the school building should have a gymnasium, with a swimming pool if possible. It is important to have sufficient ground around the school building for athletic sports; in towns the roofs can be used for playgrounds. In civilised communities the natural activities of the average child have little place, and therefore in order to obtain the best physical development which statistics showed to be essential to the highest intellectual growth it is necessary to make gymnastic exercises a part of the general curriculum. Exercise in general, and highly coördinated movements in particular, develop not only the muscles but the brain as well, and "team" games tend to raise the moral character. Bathing is of equal importance, for it stimulates the nervous system and not only prevents children from catching cold but acts as a cleansing agent. Over-fatigue must be guarded against, especially in children who are either anæmic or are growing rapidly, or are of a nervous disposition; girls entering on the adolescent period are very liable to be injured by over-fatigue. As signs of over-fatigue, awakening unrefreshed in the morning, inability to concentrate the attention, loss of memory, and irritability should be watched for and guarded against. Competitive examinations are important factors in causing over-fatigue and should be eliminated as far as possible by substituting marks depending on the daily work performed in the classes. The daily medical inspection of schools is a commendable feature of recent school management. On the intellectual side too much attention is given to certain "fads" and not enough to the fundamental studies. The class hours should be short, with the most difficult subjects in the morning. Optional studies should have no place in any grade below the latter part of the high-school course. In the higher grades hygiene and some knowledge of the processes of reproduction should be taught. Manual training is of great value in that it combines physical and mental training. Courses in domestic science are valuable adjuncts to the education of girls.

Modified Cow's Milk for Infant Feeding.

At the recent meeting of the Nagyvarad Medical Society Dr. Rácz Ödön read a paper on Cow's Milk for Infant Feeding. He said that in all attempts at the modification of cow's milk the fundamental considerations were: (1) to reduce the proportion of proteins by dilution; (2) to increase the quantity of fat, originally sufficient but reduced by the necessary dilution; (3) to increase the sugar and salt, likewise made deficient in amount by dilution; and (4) to sterilise or to pasteurise in warm weather and for special cases. Milk food ordered by prescription according to the percentage method and supplied by the laboratory has given him very excellent results, but he has obtained the same gratifying results from home modification by simple dilutions of "top" milk. For various reasons the modifications of cow's milk, whether made in the household or in the laboratory, would not give uniformly good results, no matter how accurate the adjustment of percentages might be. Cow's milk could not be converted into mother's milk by any treatment and it was necessary to use cow's milk as nature has furnished it. With proper hygienic management, however, clean cow's milk, properly diluted or modified, would suit the vast majority of bottle-fed infants provided that they were not overfed. The following simple method of home modification has been practised by Dr. Ödön who learned it from Dr. Caillè. If a quart bottle of average good milk was allowed to stand for four hours the upper half of the milk would contain about twice as much fat as the milk before standing. This portion of so-called top milk was decanted and formed the basis of bottle milk for home modification. By diluting this top milk in various proportions a product of various strengths as regards fat and proteins was obtained. The deficiency of salt and sugar was readily made up by the addition of these substances, and in this way a food was prepared which would vary in composition according to the requirements of the child to be fed. Printed directions for the feeding of infants of different ages could be had in any hospital. In a difficult case cow's milk should be discontinued for a short time and cereal decoctions and white of egg substituted. In resuming cow's milk a low strength should be used at first and should be gradually brought up to full strength milk, care being taken to avoid over-feeding. Digestion was best stimulated by carrying children out of doors and not by giving medicine. Peculiarities of pharmacology; holders of chairs must occupy themselves exclusively in teaching their special subjects.

June 24th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Tuberculosis in the Mercantile Marine.

IN the combatant navy tuberculosis accounts for one-third of the death-rate. Judge what this must be in the mercantile marine, where the recruiting is much less strict and where the hygienic conditions are much less favourable. The Italian Hygienic Office is at present compiling statistics (which have hitherto been entirely wanting) of the death-rate from tuberculosis and other ailments in the mercantile marine, and the public, professional and lay, are awaiting them with an interest which is natural enough when the conditions are considered under which the "able-bodied seaman" is known to "live" if not to "thrive." He is, says a contributor to the columns of the leading Turinese journal, "a labourer inured to excessive fatigue, in an unwholesome atmosphere, the engine-men and the stokers under hatches being even worse off than their mates above them, though these latter have a very hard time of it, what with scanty and innutritious food and insufficient sleep." As for their "lodgement," continues the authority just quoted, no one who has inspected their sleeping accommodation can have failed to see that it offers every condition favourable to the development of tuberculosis, the cubic space reserved for air being quite below the normal standard and the air itself impure, not to say actively pernicious, while the dormitory itself is dark and damp. Add to this that the "lodgement" is often infected from the too facile admission on board ship of men suffering from tuberculosis, latent or even declared, while in cases where such subjects have been sent to hospital the dormitory which they have vacated is seldom, if ever, disinfected. In such conditions it will, indeed, be a marvel if the mortality from tuberculosis in the mercantile marine does not turn out to be greatly in excess of the mortality in the combatant service, all too high as that is.

The "Garibaldi Hospital."

Next week all Italy, indeed the whole Italian-speaking world, will be intent on the commemoration of the first centenary of the birth of Garibaldi and manifold will be the forms which that commemoration will assume. Among these will be the solemn dedication of the island-rock of Caprera as a national monument of the hero—the Government having purchased it for the nation; while another which would have proved even dearer to his heart will be the erection of a hospital for the poor at the adjacent Maddalena. In a letter now before me his son, General Ricciotti Garibaldi, writes: "Such an institution was greatly desired by my father, who, after having, by the aid of English friends, established at Maddalena and Ozieri free schools for the children of the poor, contemplated the building and equipment of a hospital for the sick and infirm of the same class. This project, actively taken up by my wife, has evoked the immediate sympathy and support of all. The ladies of the garrison and of the township of Maddalena have formed a committee *ad hoc;* the working men are devoting the proceeds of so many days' labour to the same end; and the town council has set apart the annual subsidy of 5000 francs (£200). Naturally the funds thus raised will not be enough, and the Government are memorialised to intervene with a special grant in aid. This hospital will prove a blessing to the people of Sardinia, particularly along the extensive seaboard of Gallura, where, for want of roads, the hospitals of Sassari and Tempio are practically closed to them." It is to be hoped that the response of the Premier and the Minister of Finance will be favourable to General Ricciotti Garibaldi's appeal.

June 22nd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

University of Vienna.

AMONGST the officers of the University of Vienna who have been elected for the year 1907–08 the medical profession has many excellent representatives, and the highest position, that of the Rector Magnificus, has fallen to the lot of Professor Weichselbaum, the eminent pathologist. The rector must take part in all official proceedings, examinations, and promotions in the university. This position is not only the highest one which a professor can obtain during his career but it also involves the right to take part in the proceedings of the House of Lords as an active member, and the emoluments attached to it are considerable. Professor Paltauf, also a pathologist, was elected dean of the medical faculty for the coming academic year; his works on the status thymicus and the lymphatic constitution are widely known.

Roof Gardens for Hospitals.

Some hospitals which are now being erected, and others which are in contemplation, will be provided with roof gardens, so that the patients will be able to benefit by the excellent climatic conditions prevailing in Vienna during many months of the year. This old idea has been practically carried out long ago in Italy and also in America, where the high price of land has encouraged the laying out of this kind of recreation places. The new General Hospital, which will be given over to the medical faculty of the university in a short time, is now being adapted with a view to transform the roofs of nearly all the pavilions into "hanging gardens." The excellent position of the buildings—in a healthy level district sheltered from smoke and dust-laden winds and surrounded by private houses of no great height—will permit patients to spend much of their time on the top of the building amidst flowers and grass, in the open air. Lifts capable of conveying three or four beds at once lead on to the roof, where the beds will be wheeled to their places. It is also intended to let surgical patients have an abundant share of sunlight to act on their wounds. In connexion with this idea of utilising the house-tops, the municipal authorities have worked out a plan for erecting a hospital containing 1000 beds, where most of the chronic in-patients will be collected, especially those suffering from tuberculosis. These patients at present occupy many beds in the general hospitals and obstruct the admission of acute cases. The scarcity of hospital beds, so common in Vienna on account of the large percentage of tuberculous patients, will be easily done away with by the extra accommodation provided in this new large hospital. A sum of 10,000,000 kronen (£400,000) has been given by the municipality for this purpose to celebrate the jubilee of the Emperor who will in a few months complete the sixtieth year of his reign.

The Modern Treatment of Thrombosis of the Lateral Sinus.

Dr. Alexander at a recent meeting of the Gesellschaft der Aerzte read a paper on the results of the modern surgery of otitic pyæmia, especially as regards the treatment of thrombi in the sinus. His clinical material comprised 45 cases from the clinic of Professor Pollitzer. He emphasised the necessity of dealing with the jugular vein before the operation on the ear itself—namely, by the application of a double ligature, drainage of the diseased vessel towards the skin, and the radical removal of thrombotic masses. The thrombi in contact with the walls were more or less flat and their size varied from that of a small dot to a length of one or two inches. Very often they were an indication of circumscribed periphlebitis. The "thrombus obturans" was generally long, sausage-shaped, with pointed ends, and occluded the lumen entirely in its middle part only. The shape of the thrombus of the bulbus venæ jugularis corresponded with the shape of the latter, being globular. The centre of the thrombotic masses was generally soft and yellow, resembling pus. The ends were dark red, but there was hardly any difference between the ends and the centre as regards the infectious contents. The 45 cases were divided into two groups. The first group comprised 13 cases (up to the year 1903) when ligature of the jugular vein and drainage towards the skin were practised only optionally. Of these, nine (i.e., 69 per cent.) recovered and four (i.e., 31 per cent.) died, but only one of these deaths was due to meningitis. If compared with the results of other operators it was found that the latter had about the same mortality, but the cause of death was mostly meningitis. Of the remaining 32 cases, which were treated after 1903 with the invariable employment of double ligation of the jugular vein and drainage towards the skin, 80 per cent. recovered. This improvement was due undoubtedly to the improved technique and the removal of septic masses before perforating the bone. The results, as regards mortality, have been improved so far that whilst formerly 80 per cent. died, 80 per cent. now recovered, and whilst formerly 77 per cent.

died from meningitis, now only 25 per cent. of the fatal cases succumbed to that complication. The causes of death were now mostly either general sepsis or abscesses in the lung, liver, or spleen; formerly meningitis was chiefly responsible for the fatal results. Improved diagnosis of "otitic sepsis" or "pyæmia" would allow of earlier surgical intervention, so that the mortality might be still further reduced. Perhaps surgical treatment of otitic meningitis itself would be made possible. Several surgeons (Alexander, Neumann, and Körner) have tried, but have failed to find a satisfactory method for this purpose. Ligature of the jugular vein was an easy operation; a preparation of the vessel was made just as in the anatomical theatre and there was no shock whatever, because the nervous network surrounding the vessel was either injured or reduced in its vitality in consequence of the inflammation of the walls of the vessel. The fistula, leading from the skin to the vein, closed, if allowed to do so, in from eight to 14 days after the last particle of the thrombus had disappeared.

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June 25th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

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Modified Cow's Milk for Infant Feeding.

At the recent meeting of the Nagyvarad Medical Society Dr. Rácz Ödön read a paper on Cow's Milk for Infant Feeding. He said that in all attempts at the modification of cow's milk the fundamental considerations were: (1) to reduce the proportion of proteins by dilution; (2) to increase the quantity of fat, originally sufficient but reduced by the necessary dilution; (3) to increase the sugar and salt, likewise made deficient in amount by dilution; and (4) to sterilise or to pasteurise in warm weather and for special cases. Milk food ordered by prescription according to the percentage method and supplied by the laboratory has given him very excellent results, but he has obtained the same gratifying results from home modification by simple dilutions of "top" milk. For various reasons the modifications of cow's milk, whether made in the household or in the laboratory, would not give uniformly good results, no matter how accurate the adjustment of percentages might be. Cow's milk could not be converted into mother's milk by any treatment and it was necessary to use cow's milk as nature has furnished it. With proper hygienic management, however, clean cow's milk, properly diluted or modified, would suit the vast majority of bottle-fed infants provided that they were not overfed. The following simple method of home modification has been practised by Dr. Ödön who learned it from Dr. Caillé. If a quart bottle of average good milk was allowed to stand for four hours the upper half of the milk would contain about twice as much fat as the milk before standing. This portion of so-called top milk was decanted and formed the basis of bottle milk for home modification. By diluting this top milk in various proportions a product of various strengths as regards fat and proteins was obtained. The deficiency of salt and sugar was readily made up by the addition of these substances, and in this way a food was prepared which would vary in composition according to the requirements of the child to be fed. Printed directions for the feeding of infants of different ages could be had in any hospital. In a difficult case cow's milk should be discontinued for a short time and cereal decoctions and white of egg substituted. In resuming cow's milk a low strength should be used at first and should be gradually brought up to full strength milk, care being taken to avoid over-feeding. Digestion was best stimulated by carrying children out of doors and not by giving medicine. Peculiarities of idiosyncrasy with regard to cow's milk in proper dilution should not be suspected until after the child has had proper hygienic management. Infants and children who were kept indoors in cool and cold weather and compelled to breathe the air of overheated and stuffy apartments would not digest their food well, no matter what they were fed on. In cases of peculiar idiosyncrasy with regard to cow's milk a substitute must be found and this should, if possible, be the breast of a wet-nurse. In some cases whey with cream and some cereal decoction would answer.

June 24th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Ontario Medical Association: Annual Meeting.

THE twenty-seventh annual meeting of the Ontario Medical Association was held in Toronto on May 28th, 29th, and 30th, under the presidency of Dr. George A. Bingham (Toronto), Dr. Charles P. Lusk (Toronto) acting as secretary. It proved to be the second largest meeting in the history of the organisation. The address in medicine was delivered by Dr. Mazyck P. Ravenal of the Phipps Institute, Philadelphia, who took for his subject Methods of Infection in Pulmonary Tuberculosis. Dr. A. J. Richer of the St. Agathe Sanatorium, province of Quebec, followed this with a paper on Immune Therapy in Tuberculosis. In it he considered that the use of tuberculin had been proved to be advantageous in cases which had not passed into the incurable class, whilst in apparently healthy subjects it had the advantage of giving immunity or revealing latent disease. The address in surgery was delivered by Dr. George W. Crile, of Cleveland, U.S.A., the subject being Clinical and Experimental Observations on the Direct Transfusion of Blood. During the progress of the meeting there were held two very important and interesting symposia. The first of these was on the Profession in Relation to the Public. This brought out papers by Dr. G. Silverthorn (Toronto) on the Medico-legal Aspects; by Dr. J. W. S. McCullough (Alliston) on the Public Health Aspects; by Dr. C. K. Clarke (Toronto) on Ideals for Asylum Work in Ontario; and by Dr. J. A. Amyot on the Infection of Drinking Water. In connexion with the medico-legal aspects of this discussion Dr. D. D. MacTaggart (Montreal) advocated that all coroners should be legal men and that these inquiries should be conducted by them; with them should be associated a medical man. He also advocated the organisation of a medico-legal society for Canada. The reader of the paper on the Public Health Aspects of the Relation of the Profession of Medicine to the Public advocated a fair remuneration for medical health officers, fees for the registration of births and infectious diseases, as well as a fee for issuing burial or death certificates. Resulting from this discussion the committee on public health was empowered by the association to take such steps as were deemed advisable to get appointed county medical health officers throughout the Province. Dr. C. K Clarke, superintendent of the Toronto provincial Hospital for the Insane, made the announcement that the Ontario Government would shortly establish in Toronto a Government hospital clinic for psychiatry. Dr. T. J. W. Burgess (Montreal), superintendent of the Protestant Hospital for the Insane at Verdun, province of Quebec, denounced the practice of appointing politicians to the heads of these institutions and passing over the assistants who had been trained for years in their work. No junior should be appointed unless he showed a penchant for the work, and the time would come when no general practitioner would dare to accept the superintendency of one of these special hospitals. The other symposium was on the Treatment of Fractures. Dr. D. E. Mundell (Kingston, Ontario) led off with a paper on Fractures of the Skull; Dr. F. N. G. Starr (Toronto) followed with Fractures near the Elbow; Fractures near the Wrist and Ankle was dealt with by Dr. A. W. Brighton (Ontario); and Dr. W. E. Gallie (Toronto) closed the symposium with a paper on Fractures of the Femur. The Association decided to meet next year in Hamilton, Ontario, with Dr. Ingersoll Olmsted of that city as President, Dr. C. P. Lusk (Toronto) as secretary, and Dr. F. Fenton (Toronto) as treasurer.

Physician Fined for Failing to make a Call.

A medical man of Montreal recently appeared before the Recorder's court on the complaint set forth that he ha failed to register within 24 hours the death of a child wh had died from typhoid fever. He denied the indictment, a he had visited the child only once, and alleged that he ha not been informed of the patient's death. It appea that the child died on a Sunday and the medical ma had not been in the habit of paying visits on th day. The judge held, however, that it was his duty a a medical man to have visited the child on the Sunda in question, because when he had visited the patient he mu have been fully aware of the seriousness of the illne In delivering his judgment the learned justice stated that th duties of a medical man had to be performed at all hours i the same manner as those of a priest or minister. In thi instance he held that the accused had failed to perform hi duty which was to have ascertained whether his littl patient was alive or not. He therefore ordered the accuse to undergo a fine of $20 or an alternative of one month' imprisonment.

Western Hospital, Montreal.

A new Western Hospital building is about to be opene in Montreal. The first building of this rapidly growing an progressive institution was erected in 1872, 35 years ag For about 20 years it was used for a special hospital whe it was changed to a public general hospital. At first th management found it an uphill task and for several yea the collections were deficient and debt accumulated. The a new management came to the fore and soon the debt wa discharged and a successful balance-sheet was shown. Th medical board is composed of many of the best surgeon and physicians in Montreal. The new building will hav an additional accommodation for 100 beds, including 2 private wards. It has cost $75,000, and the committee o management has undertaken to raise a special fund o $100,000 for hospital purposes. Already about one-third o this amount is in sight The private ward department wil supply a want sufficiently urgent at the present time i Montreal as all the large hospitals have these wards alway occupied. That department will always be self-sustaining.

June 17th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

A CASE of bubonic plague has at last been discovered i Melbourne but the patient was infected in Sydney, he being a steward on one of the coastal steamers. He felt ill o leaving Sydney and immediately on arriving at Melbourne went to the hospital, when bacteriological examination of the serum from the inguinal bubo, for which he sought treatment, proved the case to be one of plague. He has been isolated in the plague hospital at Cook Island. The steamer has been thoroughly disinfected and the crew isolated. Cases continue to be reported from Sydney. One fatal case occurred on May 12th. During the present outbreak 42 cases have been notified, 13 of which were fatal. Plague infected rats are still being caught both in Sydney and Brisbane.

Proposed Institute for Tropical Diseases.

The chairman of the Townsville Chamber of Commerce and the medical superintendent of the Townsville Hospital recently waited on the Minister for Home Affairs of the Commonwealth and placed before him the proposal to establish an institute for the observation of tropical diseases. It was estimated that the maintenance of the institute would cost about £700 a year. The Queensland Government was expected to contribute £250 and the Commonwealth Government was asked to vote £250 also and to divert to the institute the sum of £200 already appropriated for investigation of tropical diseases abroad. The Minister promised to recommend the Cabinet to grant the request for the extra £250 a year, but as he was not aware of the conditions under which the £200 already voted was being expended he could say nothing in regard to it until inquiry had been made. The Faculty of Medicine of Melbourne has passed the following resolution on the subject:—

> That the Faculty of Medicine strongly approves of the foundation of an institute of tropical medicine on the general lines suggested by the Bishop of North Queensland and is of opinion that economy and efficiency will both be promoted by the organic connexion of the institute with the Universities of Sydney, Melbourne, and Adelaide, and by full use of the existing University laboratories.

Dr. Danysz's Experiments on the Destruction of Rabbits.

Dr. Danysz has submitted a report on the bacteriological experiments conducted at Broughton Island from October, 906, to May, 1907. As a result he affirms: first, the Pasteurellosis of the rabbit is a disease which can transmit itself from the diseased to the healthy during the life of the diseased; secondly, the spots where the infected rabbits have lived and died remain infectious for a certain time. On the island, infection of the lungs and nose, the most frequent form, as well as the most contagious, of Pasteurellosis of rabbits in Europe has not occurred, presumably owing to special climatic conditions. Dr. Danysz is sanguine that the same conditions would not obtain on the mainland, and that then the disease would prove more contagious. The experiments showed that an experimentally infected rabbit would infect about three healthy rabbits. As to infection to other animals, the experiments showed that the virus is dangerous to rabbits only. In his retiring address as president of the Royal Society of New South Wales Professor Anderson Stuart referred to the subject of the destruction of rabbits and pointed out that even if a suitable virus for killing rabbits were obtained it could not be hoped that rabbits in the open could be exterminated thereby. Being parasites, if the microbes killed the animals on which they lived they could not survive to infect others. Thus the plague microbe infected rats, but unfortunately did not exterminate them.

Health of Victoria.

Statistics presented to the Board of Public Health of Victoria for the fortnight ending May 5th show that the State continues much more free from typhoid fever than in former years. The number of cases reported was 58, with three deaths, as against an average of 131 cases and eight deaths for similar periods in the last four years. The returns for scarlet fever show only 12 cases with no deaths, as against an average of 105 cases with one death. A slight increase occurred in diphtheria, 73 cases with two deaths, as against an average of 60 cases with two deaths.

Public Health Administration in Victoria.

The chairman of the Board of Public Health of Victoria (Dr. Norris) has furnished the Board with a memorandum on sanitary administration. After reviewing the history of legislation in the State relating to public health he observes that the Board's powers of enforcing its directions to municipal councils which act as local boards of health "are cumbersome, tardy, and ineffective." He holds that a great deal of the present inefficiency in health administration is due to the system of appointing health officers, and strongly advocates groups of municipalities acting jointly to appoint specially qualified officers of health whose whole time would be given to the study of the sanitary needs of their districts and to keeping the councils continuously furnished with fuller information and a clearer view of the sanitary defects, affording them no excuse for inaction and stimulating them to exercise the powers which they possess. At the same time the controlling and coercive powers of the Board should be strengthened. A certain portion of municipal subsidies should be payable only on a certificate of the Board that primary sanitary requirements have been observed by the councils the functions and responsibilities of which should not be curtailed in any way.

Medical Inspection of Schools in New South Wales.

Dr. Roth has been appointed medical officer to the Department of Public Instruction in New South Wales. He will make an annual inspection of all the schools of the capital and suburbs and will report as to the hygienic conditions of school premises, and recommend what is necessary to remedy any defects in school buildings likely to be detrimental to the health of the scholars. He will also examine children who appear to be suffering from any complaint likely to interfere with the progress of their education, and the parents will be notified of such cases and advised where necessary to obtain proper treatment. He will ascertain if any of the children are physically unfit for ordinary physical school exercises. Sight-testing will also come within the scope of his duties. Anthropometric data will be obtained by the teachers with regard to the height and weight of scholars of different ages.

May [illegible]th.

AT the last general meeting of the Balneological and Climatological Society Dr. W. J. Tyson (Folkestone) was elected President of the society for the ensuing year.

Obituary.

JULIUS DRESCHFELD, M.D. WÜRZB., F.R.C.P. LOND., B.SC. VICT.

THE medical profession in Manchester has suffered heavily of late in the loss, by the hand of death, of many of its well-known members. Of those taken none will be more missed and more regretted than the subject of this notice. Born at Niederwerm in Bavaria Dr. Dreschfeld received his early education at Bamberg. He went to Manchester, however, in 1861, when he was about 16 years of age, and from that time, with the exception of a comparatively short interval, he made that city his home. He at once became a student at the Owens College, the initial stage in the evolution of the Victoria University, and soon showed that he possessed not only great ability but also the will and the power to use it. As a nation we are supposed to be less capable of acquiring languages than most others, but though young Dreschfeld came of a race remarkable for linguistic aptitude he must have had determination as well as readiness to enable him, though so short a time in this country, to win the first prize in the English class. This was not his only trophy, for he took prizes in the class examinations in several subjects, including mathematics and science. In 1863 he gained the Dalton chemical prize with an essay on the Chemical and Physical Properties of Water and the year following the Dalton junior mathematical scholarship. His early medical education was commenced at the Manchester Royal School of Medicine, afterwards connected with the Owens College and now a department of the Victoria University. In 1864 he returned to Bavaria and studied medicine at Würzburg, where he took the degree of M.D. in 1867, and for a time was assistant to von Bezold, the professor of physiology. But before taking his degree he served in 1866 in the Bavarian army as an assistant surgeon during the Austro-Prussian war. Three years later (in 1869) he returned to England, took the diploma of L.R.C.P. Lond., and began practice in Manchester. In 1872 he was appointed honorary physician to the Hulme dispensary and soon afterwards became one of the assistant physicians to the Manchester Royal Infirmary. In 1683 he was elected full physician on the resignation of Sir William Roberts, and his active association with the infirmary lasted till 1905, when the age-limit of 60 years deprived that institution of his more immediate services, and he was appointed consulting physician, a distinction which he only enjoyed for about two years. In 1875 Dr. Dreschfeld passed the examination for the Membership of the Royal College of Physicians of London and in 1683 was elected a Fellow, and five years later (in 1888) was appointed Bradshaw lecturer at the College when he delivered an important address on Diabetic Coma. At a later period he was an examiner for three years for the Royal College of Physicians of London and for a period of four years he was examiner in medicine at the University of Cambridge. Early in his Manchester career Dr. Dreschfeld paid great attention to morbid anatomy and histology, and in 1875 he was asked by the council of the Owens College to supervise the pathological section of the medical museum and to classify and to catalogue the specimens. He was also appointed lecturer on pathology at the Owens College and in 1831 the position was raised to the dignity of a professorship, which he held until 1891, when he became professor of medicine to the College—an appointment which he held till his death. Soon after he became lecturer on pathology he organised a pathological laboratory, perhaps the first, or at all events one of the first, in this country. It is said that the number of students attending Dr. Dreschfeld's classes increased from three in 1870 to 110 in 1891. In that year the late Dr. John Edward Morgan resigned the professorship of medicine to which Dr. Dreschfeld was elected, and this position he occupied till his death. His lectures were clear, concise, and complete and were thoroughly appreciated by the students. A man of Dr. Dreschfeld's powers could not fail to influence the members of his profession in Manchester, for he took a warm and active interest in the various societies connected with both the scientific and the practical side of medicine. There was for a long time a microscopical section of the Medical Society, which he helped to convert into the Pathological Society, Dr. H. Ashby being its first president. Dr. Dreschfeld, who succeeded him, was also a very regular attendant at the meetings of the Medical Society itself and its president in 1888. The mother and daughter societies, it may be noted, are friendly and complementary to each other. Another society which may be said to have sprung from the senior one is the Manchester Therapeutical Society, of which also Dr. Dreschfeld was a president. His contributions to these societies were numerous and valuable. In addition to the physicianship of the infirmary he was consulting physician to the Skin Hospital, to the Society for Aiding Distressed Foreigners, and honorary physician to the Christie Cancer Hospital and Home, and quite recently he accepted the honorary physicianship to the Manchester Victoria Jewish Hospital, to the great satisfaction of its supporters. For 15 years he was a member of the English committee of the International Medical Congress and in 1902 was President of the Section of Medicine at the Manchester meeting of the British Medical Association. Dr. Dreschfeld's contributions to the literature of medicine were numerous, on many subjects, and of high value. From "the seventies" to the close of his life there was an almost uninterrupted succession of weighty articles by him in Clifford Allbutt's "System of Medicine," in the *Journal of Anatomy and Physiology*, in *Brain*, in the *Medical Chronicle*, and in other journals. It is sad to think that he will not, as he had consented to do, give the Lumleian lectures next year.

Perhaps few men have been more devoted, or have given a more whole-hearted allegiance to their profession than did Dr. Dreschfeld, and as a consequence he was not able to find time for public work. His interest in what was going in city and State was, however, active, and, a lover of music, he was for many years a constant attendant at the Hallé concerts. Dr. Dreschfeld was twice married. His first wife left four children, two sons and two daughters, and in 1905 he married the daughter of the late Dr. Lilley of Leamington. In these days, 62 is accounted an early age at which to be cut off, but Dr. Dreschfeld had done a long life's work. Though for some years he had been much troubled with rheumatism his health was fairly good; he had, however, complained of not feeling well since Whitsuntide last. His death on June 15th was unexpected and he had only taken to his bed four days previously. He was a man characterised by genial and pleasant manners and genuine kindness of heart, and the blank left by his death will be sorely felt for a long time to come. He was buried at Southport and the funeral was attended by many of his old friends and colleagues.

Medical News.

Society of Apothecaries of London.—At examinations held in June the following candidates passed in the subjects indicated:—

Surgery.—M. L. Ford (Section I.) and S. F. Fouracre (Section II.) Charing Cross Hospital; and C. C. H. L. Moll (Section I.), Guy's Hospital.

Forensic Medicine.—P. D. Pickles and G. L. Walker, Leeds.

Midwifery.—J. M. Murray, Royal Free Hospital and Durham; and A. Sheppard, Guy's Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery:—S. F. Fouracre, A. Sheppard, and G. L. Walker.

University of Cambridge.—At a special Congregation for honorary degrees held on June 12th the public orator presented Sir Thomas R. Fraser for the degree of D.Sc. with these words, in the delivery of which he adopted the reformed Latin pronunciation:—

> In Uniuersitate Edinensi iam per annos triginta materiam medicam est professus uir in remediorum ui et usu inuestigando iamdudum exercitatus. *Abhinc annos* plus quam quadraginta de magica illa faba, physostigmate uenenoso, disputauit, et propterea Francogallorum ab Instituto laurea insigni est coronatus. Quid dicam de pestilentia illa per Indiam quondam grassante, ab hoc uiro per triennium audacter inuestigata? Quid de serpentium ueneno ab eodem fortiter *explorato?* Quid de atropia et strophantho? In medicina etiam uenena nonnumquam prodesse ne antiquis quidem prorsus ignotum. Talium autem uirorum auxilio disciplina illa, "quondam paucarum scientia herbarum," "in hanc peruenit tam multiplicem uarietatem."
>
> Duco ad uos medicinae professorem illustrem Edinensem, equitem insignem, Thomam Richardum Fraser.

At the final Congregation of the academical year held June 18th the following degrees were conferred:—

M.B. and B.C.—J. A. Venning, Trinity; P. A. Lloyd-Jo and H. Hardwick-Smith, St. John's; S. L. Harke, Pembro A. E. Kerr, Christ's; C. W. Greene, Emmanuel; and H. A. R. Unwin, Host. Selwyn.

M.B.—A. B. Wilson, Pembroke; R. G. Markham and G. L. We Caius; T. S. Hele, Emmanuel; and A. N. Dickson, Downing.

B.C.—C. Tylor, Caius.

During the academical year 28 Doctors of Medicine, to Masters of *Surgery, 56 Bachelors of Medicine*, and Bachelors of Surgery have taken their degrees in t University.

At examinations for medical and surgical degrees, Eas term, the following candidates were successful:—

First Examination.

Part I., Chemistry and Physics.—W. B. Alcock, Trinity Hall; Arnfield and L. W. Barlow, Caius; W. F. Bensted-Smith, Pe broke; A. H. Birks, Caius; J. Brewer and D. F. Burton, Emmanu E. Calvert and C. G. H. Campbell, St. John's; M. H. Cane, King J. W. H. Chun, Trinity; J. D. Clarke, Sidney Sussex; L. B. Cla and A. C. Clifford, Emmanuel; G. B. Code, Pembroke; E. R. Cooke, Emmanuel; J. H. Cumming, Pembroke; G. C. F Sidney Sussex; A. N. Garrod, Emmanuel; B. Graves, Chri J. L. Green and E. F. W. Grellier, Downing; A. F. Hall, St. Jo J. D. Jones, H. Selwyn; A. Kennedy, Caius; C. H. Leeke, J. D. Legge-Currie, Clare; G. R. D. McGeagh, Caius; W. C Malle, Pembroke; A. S. L. Malcolm, Caius; R. K. Emmanuel; G. C. Metcalfe and E. J. Nangle, Caius; W. S. N. Clare, Clare; A. B. Paul, Christ's; N. P. Pritchard and L. C. Bl Trinity; R. S. Scott, Caius; H. J. S. Shields, Jesus; J. W. S and C. R. Taylor, Caius; H. F. W. Warden and C. Warner, Pe broke; H. A. Watermeyer, Caius; and B. H. C. Wilson, Trinity.

Part II., Elementary Biology.—W. B. Alcock, Trinity Hall; L. A. Anderson, Emmanuel; G. Arnfield and L. W. Barlow, Caius; W. Bensted-Smith, Pembroke; A. V. Boyall, Trinity; J. Brewer D. F. Burton, Emmanuel; E. Calvert, St. John's; J. W. H. Ch Trinity; J. D. Clarke, Sidney Sussex; A. C. Clifford, Emmanu B. K. T. Collins, Trinity; A. G. W. Compton, B.A., Caius; S. Crosse, Pembroke; J. Deighton, Trinity; E. L. Dobson, King's; Donaldson, Trinity; G. C. Fairchild, Sidney Sussex; A. N. Garr Emmanuel; J. E. Gething, B.A., Pembroke; B. Graves, Christ J. L. Green and E. F. W. Grellier, Downing; R. H. Growse, Cai A. F. Hall, St. John's; S. M. Hattersley, Emmanuel; D. W. Jo Clare; I. W. Joynt, Emmanuel; G. R. D. McGeagh, Caius; J. M. Mackenzie, Trinity; Q. Madge, Emmanuel; W. C. D. Malle, Pe broke; A. S. L. Malcolm, Caius; E. G. Martin, B.A., Trinity Ha R. K. Merson, Emmanuel; G. C. Metcalfe and E. J. Nangle, Caiu W. S. Newton-Clare, Clare; N. F. Norman, Downing; T. Ow Jesus; A. B. Paul, Christ's; J. H. Pendered, Caius; D. Pickering, Emmanuel; A. C. Pickett, Caius; L. C. Rive Trinity; L. T. Rutherford, Clare; R. S. Scott, Caius; Sharpe, B.A., Pembroke; L. W. Shelley, Caius; H. J. Shields, Jesus; F. B. Smith, King's; G. A. Smythe, Emmanu L. C. Somervell, King's; J. W. Stretton, Caius; A. L. Sutclif Sidney Sussex; C. R. Taylor, Caius; J. F. Taylor, H. Selwy G. S. E. Thomas, Downing; J. W. Tonks, Caius; G. A. Wa Queen's; J. R. Waddy, H. F. W. Warden, and C. Warner, Pe broke; W. G. Watson, Caius; and S. M. Wilcox, Emmanuel.

Second Examination.

Human Anatomy and Physiology.—W. A. Anderson, B.A., Clar E. W. Atkinson, B.A., Caius; H. J. Baldwin, M.A., Emmanu A. W. Bourne, Downing; J. S. Burn, B.A., Trinity; F. Chandler, Jesus; N. L. Clarke, Christ's; K. J. A. Davis, B. King's; M. E. Dellschaft, Jesus; R. Gamlin, B.A., King E. St. G. S. Goodwin and A. H. Gosse, B.A., Caius; H. Greaves, B.A., Emmanuel; S. J. Higgins, B.A., Caius; J. Jarvie, B.A., Emmanuel; J. S. Jobson, B.A., Sidney Sussex; A. Johnson, Downing; G. G. Johnstone, King's; T. H. Just, Trinit K. T. Khong, St. John's; G. Moore, Clare; T. E. Osmond, B. Emmanuel; W. M. Penny, B.A., Jesus; B. A. Playne, Pembrok G. H. Pooley, Caius; J. B. Pulling, Christ's; A. H. Richard and J. B. Ronaldson, B.A., St. John's; S. H. Rouquette, King A. C. Roxburgh, Trinity; H. B. G. Russell, Sidney Sussex; F. Saner, Christ's, L. W. K. Scargill, M.A., Trinity Hall; F. H. Smit B.A., Christ's; A. W. Stott, Trinity; J. Van Schalkwijk, B. Caius; H. F. Wilson, Christ's; and M. M. Woods, Clare.

Third Examination.

Part I., Pharmacology and General Pathology.—C. W. Archer, B.A Trinity; A. E. Bonny, Sidney Sussex; R. S. Carey, B.A., Corp Christi; L. Colledge, B.A., Caius; C. A. Dottridge, B.A., Cla E. A. Dyson, B.A., Jesus; A. Feiling, B.A., Pembroke; P. Gilroy, B.A., H. Selwyn; A. H. Habgood, B.A., Jesus; A. Hargreaves, B.A., Trinity; S. L. Harke, B.A., Pembrok W. Harmens, B.A., Trinity; E. H. V. Hodge, B.A., Clare; H. Humphrys, B.A., Caius; R. H. Hutchinson, B.A., Clare; P. C. Jones, B.A., St. John's; G. O. Kidd, B.A., Christ's; F. H. Lest B.A., Pembroke; P. A. Lloyd-Jones, B.A., St. John's; C. McKerrow, B.A., Clare; L. Meakin, B.A., Trinity; A. F. Morco B.A., Clare; L. B. Perry, B.A., Queen's; J. H. Ryffel, M.A., Pete house; R. M. R. Thursfield, B.A., H. Selwyn; J. H. Trench, B.A Trinity; C. Tylor, B.A., Caius; R. M. Vick, B.A., Jesus; B. Webb Non Collegiate; T. N. Wood, B.A., Pembroke; and A. E. M. Woo B.A., and C. S. E. Wright, B.A., Emmanuel.

Part II., Surgery, Midwifery, and Medicine.—F. O. Arnold, B.A and P. H. Bahr, B.A., Trinity; G. D. Bartlett, B.A., Sidne Sussex; H. Beckton, M.A., Clare; R. Burgess, B.A., and S. Chan, B.A., Caius; S. Churchill, B.A. Trinity; A. I. Cooke, B.A Caius; A. T. Densham, B.A., St. John's; A. N. Dickson, Downin H. Dimock, B.A., Sidney Sussex; C. W. Greene, B.A., Emmanuel G. F. Greenwood, B.A., Sidney Sussex; C. L. M. Jones, B.A King's; A. R. Jordan, B.A., Clare; B. T. Lang, B.A., Trinity R. B. Lloyd, B.A., Emmanuel; L. H. L. Mackenzie, B.A., Trinity

R. G. Markham, B.A., and H. F. Marris, M.A., Caius; J. H. B. Martin, B.A., *Emmanuel; L. Nicholls, B.A., Downing;* C. W. Ponder, M.A., Emmanuel; *J. H. Pratt, B.A., Trinity;* C. L. Scarborough, M.A., St. John's; A. L. Singer, B.A., King's; E. F. Skinner, M.A., Corpus Christi; A. C. H. Suhr, B.A., Caius; C. B. Ticehurst, B.A., St. John's; C. Tylor, B.A., Caius; J. A. Venning, B.A., Trinity; *B. Wahby, Non Collegiate; R. R. Walker, B.A.,* St. John's; A. B. Wilson, B.A., Pembroke; and R. F. Young, B.A., Christ's.

UNIVERSITY OF OXFORD AND PROFESSOR EHRLICH.—The following is the text of the Latin speech in which Professor Love introduced Professor Ehrlich for the honorary degree of D.Sc. :—

Antiquis ea erat *medendi ratio* ut *angores levarent vel varia* molestiarum genera minuerent *medicamentis* vel quæ affectus contrarios excitarent: recentes id propositum habent ut abdita morborum semina iam inolescentia et in vivis medullis concreta deprehendant et exstinguant. Ita non solum *morbo* quo quisque laboret *mederi sed ipsum corpus quasi præsidiis occupare* et inexpugnabile facere conantur. In maximo hoc bello quod hodie geritur contra febres varias, velut *διφθεριαν* quam vocant, contra cancros, vel malis seminibus vel ipsius carnis corruptione ortos, nemo melius vel iam munivit vel in acie præliatus est quam Paulus Ehrlich. Victoria quidem nondum reportata est: quamvis multi hostes fusi sint, restant illi mox superandi: huic certe viro summa diligentia et prudentia, erudito, salubritatis *patrono* et *præsidi, siquid bene gestum est* acceptum *referre* debemus: huius opera et eorum qui sub eius signis militant novos triumphos reportari posse speramus.

TRINITY COLLEGE, DUBLIN.—At examinations held in Trinity term the following candidates were successful:—

Diploma in Public Health, Part II.—Cecil Scaife.

Final Medical Examination, Part II., Medicine.—William Pearson (passed on high marks), Richard G. S. Gregg, Robert E. Wright, William A. R. Spong, Henry de C. Dillon, James G. M. Moloney, William E. M. Armstrong, Wilfrid J. Dunn, Thomas P. S. Eves, Henry P. Hart, Frederick Stevenson, Francis O'B. Kennedy, James D. K. Roche, Oliver St. J. Gogarty, James C. C. Hogan, Charles H. O'Rorke, Ernest T. Jameson, Joseph C. A. Ridgway, Edmond H. Sheehan, James R. Yourell, Archibald L. Robinson, and Wallace D. Mitchell.

THE GRAND PRIORY OF THE ORDER OF ST. JOHN OF JERUSALEM IN ENGLAND.—The annual commemoration service of the Grand Priory of the Ordar *of* the Hospital of St. John of Jerusalem in England was held in St. John's parish church, Clerkenwell, on June 24th. The sermon was preached by the Rev. T. O. Elsdon, who said that the Order was founded at Jerusalem in 1092. It now assisted suffering humanity all *over* the Empire and the new charter would enable the work to be extended. *After* the service a general assembly of the Order was held in the council room at St. John's Gate.

OPHTHALMOLOGY AND THE UNIVERSITY OF OXFORD.—The fourth annual course on ophthalmology will be held from July 15th to 27th. The main idea of the *course* is to demonstrate (on actual patients so far as possible) the whole range of ophthalmology. The first portion of the course will be mainly devoted to demonstrating the practical examination of eye patients, the use of the ophthalmoscope, and the work of refraction. During the second portion the work will be more specialised. Altogether some 500 cases will be present for demonstration. The course will be illustrated by the *lantern* and the fee for the course is £5 5*s.* Gentlemen attending the course will be provided with board and residence at *Keble College* at the rate of 7*s.* 6*d.* a day. For further particulars application should be made to *Mr. Robert W. Doyne,* Margaret Ogilvie's reader in ophthalmology in the University of Oxford, 30, Cavendish-square, London, W. Between 80 and 90 surgeons accepted the invitation given last year to see some of the more interesting cases collected for the post-graduate course of ophthalmology at Oxford and other demonstrations. The apparent appreciation of those who came has encouraged the idea of another gathering of the same sort this year on July 26th and 27th. In order that it may not clash with the meeting of the British Medical Association in the *following* week a series of demonstrations, rather than papers and discussions, has been arranged. Mr. E. Nettleship, who will preside over the meeting, will give an address, and demonstrations by both British and foreign physicists, physiologists, and ophthalmologists have been arranged. Moreover, *there* will be *a large* number of interesting clinical cases at the Eye Hospital. Surgeons who desire to attend this gathering will be accommodated with board and residence in Keble College at the rate of 7*s.* 6*d* per day. They will meet at dinner on Thursday, July 25th, and the meeting will close after breakfast on Monday, July 29th. There will be morning service in Keble College Chapel at 8 on Sunday and *after breakfast* a launch will leave Folly Bridge at 10 to go down the river to Reading.

HER Royal Highness Princess Louise, Duchess of Argyll, has accepted the office of patron of the London *Temperance Hospital.*

ON Tuesday, July 2nd, at 4 P.M., at the Westminster Hospital, the Right Hon. Alfred Lyttelton, K.C., M.P., will *distribute the prizes gained in the hospital* medical school.

ASSOCIATION OF PHYSICIANS AND SURGEONS OF THE SOCIETY OF APOTHECARIES.—This association will hold a dinner at the Restaurant Frascati, 32, Oxford-street, *London,* W., *on Thursday, July 4th,* at 8 P.M. *All* Licentiates and their friends (ladies or gentlemen) are *invited. Tickets (single 7s., double 13s.)* may be obtained from Mr. Gerald Dalton, Cranbourn Mansions, Cranbourn-street, *London,* W.C., or from *Dr.* A. Rivers-Willson, 42, Wellington-square, Oxford.

POOR-LAW MEDICAL OFFICERS AND CLUBS.—*At a recent meeting of the Bideford (Devon)* board of guardians the business included the appointment of a medical officer for the Hartland district. Before the election letters were read from several clubs and friendly societies in the neighbourhood praying that the board would make the election conditional on the willingness of *the* officer appointed to take medical charge of their clubs, as there was a great difficulty in securing the services of a medical man for this office. They further stated that if this were not done it would have the effect of throwing a great number of their members on parish relief, especially poor women who were at present unable to obtain the services of a medical man when they were sick. One of the societies complained that although it had been without a medical contract since the beginning of the year yet "by great efforts of kind friends and extra subscriptions it had paid bills for only four juvenile members amounting to £3 9*s.* for very little attendance and advice." Another club stated that its medical officer's fees for last year amounted to £25 16*s.* It was further *stated that Mr. A. L. Martyn, one of the* candidates, was unwilling to accept the club's terms of office. Another candidate, Dr. Peter Lowe, had written to the clerk to inquire what fees he would get from the clubs. After receiving his reply he had sent in his application and it was considered that he would accordingly be willing to undertake the clubs if appointed to the district post. In reply to the suggestion that the appointment should be made conditional on such acceptance of the clubs the chairman stated that the Local Government Board would not recognise such a condition. Dr. Lowe was subsequently unanimously elected. It appears that there has been considerable local feeling in favour of the appointment being given to a practitioner who was willing to undertake *the clubs.*

THE COLONIAL NURSING ASSOCIATION.—The annual meeting of the Colonial Nursing Association was held at Grosvenor House on June 14th, when Princess Henry of Battenberg, patroness of the association, was present. Lord Ampthill *presided. The object* of the association is to provide trained nurses for the British colonies and dependencies and for British communities abroad both for private and hospital work. The report for the year ending April, 1907, shows a steady increase in the number of nurses employed. The number of nurses engaged during the year was 167, of whom 121 were in Government service and the rest in private employment. It is certainly a matter for reflection, as Lord Ampthill pointed out, that considering the importance *of* the *objects* of the association its members should number only about 112, while its income amounted to the small sum of £475, half of which was contributed by *Sir* Alfred Jones. The number of people who have relatives in distant parts of the empire cannot be small, and at a *time* when imperialism is preached from the housetops it is *singular* that greater interest should not be taken in the work of the association. Mr. Austin Chamberlain, in moving the adoption of the report, said the work of the association ought to appeal to every British citizen, for it was helping to *discharge* one of our imperial responsibilities. Men of our own race who gave the best years of their lives to the *public* service in tropical and semi-tropical regions had to face many dangers and difficulties against which no human foresight could guard, but we could at *least* ameliorate their sufferings in illness and save precious lives risked in the service of the empire. In nearly all our dependencies there were Government Hospitals but many a man was stricken down far away from a hospital and had to seek skilled nursing outside such institutions or remain dependent on servants of another race who were often ignorant and careless. How great the needless sacrifice of life had been in the past owing to the lack of skilled care and nursing he did not care to contemplate. Nursing was essentially women's work and the only way in which skilled suitable nurses could be obtained was by training and selecting them at home. The association equipped nurses when necessary for the particular country to which they were going and when they returned invalided home looked after them until they were able to recommence work. It was very noticeable that a great improvement had taken place in colonial hospitals since the association was started. This, he thought, was not unconnected with nursing sisters who had been trained in properly equipped hospitals at home. He appealed for support, not only to private persons who had friends abroad, but to the great mercantile houses whose existence was closely connected with the development of our colonies and dependencies. Sir George Goldie drew attention to the imperial value of the health of officials in places where a breach of continuity in administration might lead to serious troubles among the natives. Lady Piggott, Sir Edward Noel-Walker, and Mrs. Weston Devenish also supported the adoption of the report, which was carried unanimously. Votes of thanks to Princess Henry of Battenberg, to the Duke and Duchess of Westminster, and to the chairman concluded the proceedings.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Prohibition of Medical Practice by Companies Bill.

Lord HYLTON has given notice that when the Prohibition of Medical Practice by Companies Bill comes again before the House of Lords he will move as an amendment that the officers of offending companies shall be liable to the penalty provided in the measure quite irrespectively of the fact that the contravention was knowingly and wilfully permitted. This Bill, having now passed through its Committee stage in the House of Lords, is set down for third reading on Wednesday, July 3rd.

The Food and Drugs Amendment (Scotland) Bill.

Mr. MITCHELL-THOMSON has introduced a Bill into the House of Commons to amend the Sale of Food and Drugs Acts, 1875 to 1899, as they apply to Scotland.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 19TH.

The Medical Aspect of Shot Drill.

Mr. H C. LEA asked the Secretary of State for War whether soldiers were still subjected to shot drill in any military prisons or detention barracks, either at home or abroad, and, if so, considering the consensus of medical opinion that existed as to the injury which this form of punishment did to the physique of the soldier, whether he would abolish it forthwith.—Mr. HALDANE replied Shot drill is no longer carried out in military prisons or detention barracks, either at home or abroad, although the consensus of medical opinion is not against this form of punishment, provided that it is under proper supervision. In fact, its abolition was not based on medical advice but on the substitution of drill, gymnastics, musketry, &c., for "hard labour."

The Barrow Drainage Problem

Mr. MEECHAN and Mr. KILBRIDE addressed a series of questions to the Chief Secretary to the Lord Lieutenant of Ireland drawing attention to various medical evidence given before the Barrow Drainage Commission, 1885, to the effect that large areas of country in the neighbourhood of the Barrow were so badly drained and so frequently flooded that the health of the public was prejudicially affected thereby. Both honourable Members asked what steps the right honourable gentleman proposed with a view to providing a remedy for the flooding —Mr BIRRELL replied: I have already answered a similar question put to me by an honourable Member this session I have fully explained to him that legislation is necessary before any large drainage schemes can be undertaken and that no such legislation can be introduced until full consideration has been given to the recommendations of the Arterial Drainage Commission whose report has been recently received. The question of arterial drainage in Ireland is one of considerable magnitude and I understand that the expenditure of some millions of public money would be necessary to give full effect to the recommendations of the Arterial Drainage Commission. It must be obvious that I cannot give any undertaking this session as to the introduction of legislation on the subject

The Fees of Vaccination Officers

Captain FABER asked the President of the Local Government Board whether, seeing that the granting of exemption certificates to conscientious objectors to vaccination was a matter over which vaccination officers had no control, and that the receipt of exemption certificates entailed as much clerical and statistical work upon vaccination officers as did vaccination certificates, he could see his way to insert a claus the new Vaccination Bill to provide for the payment to officers of a fee for the registration by them of exemption certif the same manner as was now provided for the registration of cates of successful vaccination.—Mr. BURNS replied I have occasion to consider this matter and I do not see my way to the insertion in the Bill of a clause to the effect suggested.

THURSDAY, JUNE 20TH.

Public Health in Belfast.

Mr. CHARLES DUNCAN asked the Chief Secretary to the Lord L tenant of Ireland whether he was aware that the Belfast S Shipping Company had a number of imported labourers living vessel in the harbour, whether he was aware that a number of labourers were reported to be seriously ill, and that several had alre been removed to Belfast Hospital, and what steps were proposed to taken to insure that this menace to the health of the city was abat The honourable Member in the course of a further question as whether the right honourable gentleman would take steps to see t the medical officer of health of the city of Belfast was informed t several cases of fever had occurred amongst the imported labourers present on board a vessel in Belfast Harbour, and whether he wo take such action as to insure that the medical officer of health car out his duties in an efficient and impartial manner regardless of interests of shipping and other companies —Mr. BIRRELL (reply to both questions) said: The Local Government Board has a special investigation made by one of its medical About 150 imported labourers are living in a steamship in Harbour. Two men have had to be removed to hospital surgical treatment in consequence of accidents, but no case of tious disease has occurred and none of the men have been seriously The medical officer acting for the port sanitary authority visits ship daily and both the public health authority of the and the port sanitary authority are fully alive to the of exercising a strict supervision over the vessel. The Local ment Board's medical inspector found the ship to be very The total number of men living on board, including the crew, is The ship is licensed by the Board of Trade for 356. The Local ment Board is satisfied that the facts of the case do not constitut menace to the public health of the city and no circumstance calling its intervention has arisen.—Replying to a supplementary Mr. BIRRELL said that he was satisfied that the medical officer and port sanitary authority had done their duty.

Cerebro spinal Fever in Belfast.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant Ireland whether, in view of the fact that the recent spotted fe scare in Belfast caused a decrease in the average attendance at many the national schools, that the National Commissioners of Educati had notified the withdrawal of salary from teachers where attendanc had not reached the standard, and that rule 83 (b) provided for the exceptional cases, he would recommend the Board to continue t grant for an additional period of insufficient attendance.—Mr BIRRE replied (by written answer): The Commissioners of National Educ tion inform me that in cases in which the attendance has be exceptionally reduced owing to the spotted fever or any epidemic, they have exercised their power of continuing the grants assistants and will continue to exercise that power in proper cases.

Food Regulation Bill

Mr. ALDEN asked the President of the Local Government Bo whether, in view of the delay in proceeding with the Food Regulatio Bill and the importance of that measure, he would ask for Governme time in order to facilitate its passage into law.—Mr BURNS (by writte answer) replied The Bill is now awaiting second reading I cannot present say when this stage will be taken, but I shall, of course, b very glad if time can be found for this purpose

Cancer Research in India.

Mr WEIR asked the Secretary of State for India, having regard t the fact that the Command Paper entitled Statement Exhibiting th Moral and Material Progress and Condition of India, 1905-06, declare that very valuable results had been obtained by the Plague Investiga tion Committee, whether he would consider the expediency of appoint ing a committee to inquire into the prevalence of cancer in India an the measures taken to combat the disease.—Mr MORLEY furnishe the following written answer: The investigations which the honour able Member desires are already being prosecuted in India by th Imperial Cancer Research Fund in coöperation with the Governmen of India. Arrangements have been made for the systematic collectio of data as to the prevalence of the disease in India and for the trans mission of the same by medical officers to the Cancer Research Fun for examination and record The research work which the Fund i carrying on will guide the Indian medical authorities in the adoption of measures for combating the disease, which relatively to plague ha a very slight effect on the health of the general population of India.

Insanitary Barracks

During the afternoon a debate arose on the report of an Army Vote of £2,436,000 for the expenses of barrack construction, &c., and severa speakers complained of the insanitary condition of barracks in variou parts of the kingdom

Viscount TURNOUR said that Piershill barracks, Edinburgh, were not in a fit state to hold troops, and owing to the insanitary conditions the soldiers had suffered considerably from diphtheria and other diseases. Nothing had been done to remedy this state of affairs He also asked why the Government had not put the Preston barracks at Brighton into a proper sanitary condition

Mr MITCHELL THOMSON and other speakers asked whether it was the view of the Government that the Piershill barracks were insanitary If they were insanitary why were troops quartered there at all? Why were they more suitable for artillery than for cavalry?

Mr. BUCHANAN, the Financial Secretary to the War Office, in the course of his reply, said that Piershill was not an insanitary barrack A medical commission was sent down last year to examine it, and the members of it reported that it could not be condemned as an insanitary barrack. But it was a very inferior barrack The annual rate of sickness was not very high, but there had been a good deal of sickness in it from time to time. The situation was not a good one, and there was a sewage farm near it. The barrack, however, was not dangerous and e War Office intended to keep troops in it. When the Scots Greys re moved out of it there would be a further sanitary inquiry into the dition of the barrack. As it was impossible within a short time to ld a cavalry barrack of the requisite size in Scotland the War Office ded to have Piershill put into proper condition. The condition of hill had often been brought under the notice of the late Govern-, but it considered that there were other services which were e urgent and it spent the money at its disposal on those other ices. The present Government had endeavoured with the much e limited resources which it had at present to deal with the t urgent services, and it looked forward to constructing a lry barracks in Scotland as one of the most prominent needs of the re.

r. Balfour said that if the reasons for not keeping cavalry at hill were good, surely they were as good for not keeping artillery e. The Government should make up its mind whether it was a e where troops should be kept and whether it was insanitary or not.

r. Buchanan (interposing) explained that "insanitary" had a nical meaning. The War Office asked the committee which it t down to report whether the barrack was insanitary or not. If it been reported "insanitary" the barrack would have had to be demned.

r. Balfour (continuing) said that the barrack apparently was ealthy but not insanitary. He urged the Government not to let objection to defraying works out of loans instead of out of the imates stand in the way of providing healthy accommodation for the ps.

r. Claude Hay called attention to the condition of Perth barracks, ch he said was nothing less than a scandal. They were old and out ate from every point of view of modern sanitation and comfort.

r. Gulland remarked that it had been stated that there was a age farm near Piershill barracks. The corporation of Edinburgh however, now resolved that these irrigation meadows were not thy and steps were being taken to do away with them. That would eve the situation as regarded Piershill.

fter further discussion the motion was agreed to by 164 votes to 40.

Monday, June 24th.

The Public Health Acts.

r Francis Channing asked the President of the Local Government rd whether he would introduce, either in the present or the next on of Parliament, a Bill consolidating and bringing up to date the lic Health Acts and the provisions of amending Acts.—Mr. Burns , in reply: It would not be practicable to introduce a Bill to solidate the Acts referred to during the present session. I do not k that at the present time I could give any pledge as to legislation this purpose next year.

The Compulsory Notification of Pulmonary Tuberculosis.

r Francis Channing asked the President of the Local Government rd whether he had now obtained a report from the Scottish Local ernment Board as to the working of compulsory notification of monary tuberculosis in certain towns in Scotland; and, if not, ether he would obtain such detailed report and lay it before Parlia- t.—Mr. Burns answered: I am not aware that the Scottish Local ernment Board has made any report on the working of the com- ory notification of pulmonary tuberculosis in certain towns in land. The question whether any such report should be made and before Parliament is hardly a matter for me. It appears to be one my right honourable friend the Secretary for Scotland.

r Francis Channing asked the President of the Local Government rd whether the report of Dr. H. T. Bulstrode as to the sanatoriums pulmonary tuberculosis in England and Wales and as to voluntary compulsory notification of pulmonary tuberculosis, which was ed on April 15th to be in the press, would be issued before the vote the Local Government Board was taken.—Mr. Burns replied: Dr. strode is engaged in revising the proofs of his report, but there is a siderable amount of work to be done upon it, and I cannot under- e that it will be issued before the vote for the Local Government rd is taken.

The Sewage of Dumbarton.

r. Robert Duncan asked the Secretary for Scotland whether he aware that the sewer pipes of the burgh of Dumbarton were being ended towards the centre of the river Leven, whether this action the concurrence and sanction of the Local Government Board; , if not, whether steps would be taken by the Board to compel the gh to adopt a satisfactory system of sewage purification.—Mr. clair said in answer: I have no further information since my reply the honourable Member's former questions. The sanction of the al Government Board to the extension of the sewer outlets is not uired nor has it any power to compel the local authority to pt a system of sewage purification unless it can be shown that such ential in order to remove a public health nuisance. Arrange- ts have, however, been made for a joint inquiry by the inspector er the Rivers Pollution Act and the medical inspector of the Board.

Meals for Necessitous School Children.

r. Brooke asked the President of the Board of Education how y of the local authorities in England and Wales had thus far availed mselves of the Provisions of Meals for Indigent Children Act, passed session, and what were the names of those authorities.—Mr. Renna answered: Except in cases where it is desired to spend ey from the rates upon the purchase of food local authorities are required by the Act to inform the Board of Education of their pro- dings under it, and I have therefore no complete information as to authorities who have in one way or another taken advantage of its isions. The following seven authorities have been authorised by Board under section 3 of the Act to expend moneys out of the rates n the purchase of food: Acton Manor, Barry, Birmingham, Crewe, ersfield, Manchester, and Nottingham. Similar applications from [illegible] and Cannock have been received.

Women Medical Referees.

Mr. Ramsay Macdonald asked the Secretary of State for the Home partment whether, having regard to the increased number of female [illegible] affected by the new Workmen's Compensation Act, it was pro- ed that at least one medical referee in each district should be a woman [illegible]. Mr. [illegible] put a similar question.—Mr. Gladstone, replying to both questions said: The question of appointing women medical referees for the purposes of the new Workmen's Compensation Act is under my consideration.

Tuesday, June 25th.

Vaccine for the Army.

Answering Mr. Lupton,

Mr. Haldane said: The estimated yearly expenditure from army votes for the production of vaccine matter amounts to £410, towards which the Admiralty makes a contribution of £250 for the vaccine supplied to the navy.

The Government and Tropical Medicine.

Colonel Lockwood asked the Under Secretary of State for the Colonies what amount was contributed by the Imperial Government towards the maintenance of the Tropical School of Medicine at Liverpool; what was the total cost of maintenance of that hospital and what amount was contributed by the Government of the Congo; and what sum, if any, was contributed by the Government to similar hospitals in London.—Mr. Churchill furnished the following written answer: A sum of £500 a year is contributed by the Imperial Government to the Tropical Diseases Research Fund, administered by the Secretary of State for the Colonies, and an annual grant is made from this fund to the Tropical School of Medicine at Liverpool. The amount of the grant for the present financial year is £500. The school is not a Government institution, and I am unable to say what is the total cost of its maintenance and what amount is contributed by the Government of the Congo. An annual grant is also made from the fund to the School of Tropical Medicine in London. The amount of the grant to that school for the present financial year is £1000, with an additional grant of £1000 to be spread over three years, for the purpose of creating the appointment of a pathological entomologist at the school.

Wednesday, June 26th.

Patent Medicines and Alcohol.

Sir Gilbert Parker asked the Secretary of State for the Home Department, whether official tests were made of patent medicines offered to the public as to the amount of alcohol which they contained; whether there was any limit to its use in patent medicines; if so, what was it; and what penalties were attached to misuse.—Mr. Asquith (The Chancellor of the Exchequer) replied: Samples of medicines are from time to time tested at the Government laboratory in order to ascertain whether they are sufficiently medicated to be entitled to the privilege of sale without a spirit licence. There is no limit to the use of alcohol but in every case there must be sufficient medication to secure that the preparation cannot be vended as a beverage. The sale as a medicine of any article not entitled to be regarded as a medicine would subject the offender to the penalties applicable to the unauthorised sale of spirits.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, 8, *Henrietta-street*, Covent Garden, *London*, W.C.

- Rational and Effective Treatment of Hip Disease. By P. Bruce Bennie, M.A., M.D., B.S. Melb., Honorary Medical Officer, Melbourne, Hospital for Sick Children; President, Melbourne Medical Association, 1895; President, Melbourne Pediatric Society, 1907. Founded on Experience of Numerous Cases in Hospital Practice during 28 Years. Compiled by Alex. B. Bennie, M.A., M.B., B.S. Melb. Price 5*s.* net.
- On Treatment. By Harry Campbell, M.D., B.S., F.R.C.P., Physician to the North-West London Hospital and to the Hospital for Diseases of the Nervous System, Welbeck-street. Price 5*s.* net.

Bernau, Chas. A., "Pendeen," *Bowes-road*, Walton-on-Thames, England.

- The International Genealogical Directory. 1907. (First Edition.) Price 10*s.* 6*d.*, net, post free.

Blackwell, B. H., 50 and 51, Broad-street, Oxford. (Simpkin, Marshall and Co., Limited, London.)

- A Last Ramble in the Classics. By Hugh E. P. Platt, M.A., Fellow of Lincoln College, *Oxford*, Author of "Byways in the Classics." Price 3*s.* 6*d.* net.

Cambridge University Press Warehouse, Fetter-lane, E.C., and 50, Wellington-street, Glasgow. (H. K. Lewis, 136, *Gower-street*, *London*, W.C.)

- Air Currents and the Laws of Ventilation. Lectures on the Physics of the Ventilation of Buildings delivered in the University of Cambridge in the Lent Term, 1903. By W. N. Shaw, Sc.D., F.R.S., Honorary Fellow of *Emmanuel College*, *Director* of the Meteorological Office. Price 3*s.* net.

Churchill, J. and A., 7, Great Marlborough-street, London, W.

- Saint Thomas's Hospital Reports. New Series. Edited by Dr. H. G. Turney and Mr. W. H. Battle. Vol. XXXIV. Price 8*s.* 6*d.* net.
- Diseases of the Eye. A Manual for Students and Practitioners. By J. Herbert Parsons, D.Sc., M.B., B.S., F.R.C.S., Assistant Ophthalmic Surgeon, University College Hospital; Assistant Surgeon, Royal London (Moorfields) Ophthalmic Hospital; Ophthalmic Surgeon, Hospital for Sick Children, Great Ormond-street; Lecturer on Physiological Optics, University College, London. Price 10*s.* 6*d.* net.
- The Ophthalmoscope. A Manual for Students. By Gustavus Hartridge, F.R.C.S., Surgeon to the Royal Westminster Ophthalmic Hospital, Ophthalmic Surgeon and Lecturer on Ophthalmic Surgery to the Westminster Hospital. Fifth edition. Price 4*s.* net.

Collins' Clear-Type Press, London and Glasgow.

- Collins' Modern Fiction. Price 7*d.* each net.
- The Great Refusal. By Maxwell Gray.
- The Secret Woman. By Eden Phillpotts.
- The [illegible] of Mary. By [illegible] Allerton.
- The Golden Butterfly. By Walter Besant and James Rice.

Currie, John, 15, Shandon-place, Edinburgh.

Medical Examination Questions. Set at the University of Edinburgh and Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow for Several Years. 1907. Price 2*s.* net.; post free, 2*s.* 3*d.*

Fischer, Gustav, Jena.

Atlas des Menschlichen Gehörorganes, mit besonderer Berücksichtigung der Topographischen und Chirurgischen Anatomie des Schläfenbeines. Von Dr. A. Schoenemann, P.D. fur Otologie, Rhinologie, und Laryngologie an der Universität Bern. Ins Englische übersetzt von Dr. Percival J. Hay, Sheffield. Price M.45.;

Glaisher, Henry J., 57, Wigmore-street, Cavendish-square, London, W.

Hay-Fever, Hay-Asthma, its Causes, Diagnosis, and Treatment. By William Lloyd, Surgeon-in-Charge of the Nose, Ear, and Throat Department, Kensington General Hospital; Surgeon to the Nose and Throat Department, St. Pancras and Northern Dispensary;, Fellow of the Royal College of Surgeons. Price 3*s.* 6*d.* net.

Headley Brothers, Bishopsgate-street Within, London, E.C.

The Health of the State. By George Newman, M.D., D.P.H., F.R.S.E., Lecturer on Public Health in St. Bartholomew's Hospital (*University of London*), Medical Officer of Health of the Metropolitan Borough of Finsbury. *Price 1s. net.* (Social Service Handbooks. No. 2. Edited by Percy Alden, M.P.)

Heinemann, William, London.

The Efficient Life. By Luther H. Gulick, M.D., *Director of* Physical Training in the *New York City Schools. Price 3s. 6d.* net.

Henderson and Son, *University Press, St. Andrews.* (*David Nutt*, Long Acre, London.)

George Buchanan: A Memorial. 1506–1906. *Contributions by various Writers, compiled and edited by D. A. Millar* (on behalf of the Executive of the Students' Representative Council of St. Andrews University). Price not stated.

Macmillan and Co., Limited, London.

Alcohol and the Human Body. An Introduction to the Study of the Subject. By Sir Victor Horsley, F.R.S., F.R.C.S., M.B., B.S. *Lond.*, Hon. M.D. Halle, etc., and Mary Sturge, M.D. Lond. With a Chapter by Arthur Newsholme, M.D., F.R.C.P., D.P.H. *Price* 5*s.* net.

Murray, John, 50a, Albemarle-street, London, W.

The Licensed Trade. An Independent Survey. By Edwin A. Pratt, Author of "Licensing and Temperance in Sweden, Norway, and Denmark," "The Transition in Agriculture," &c. Price 5*s.* net.

National Service League, 72, Victoria-street, Westminster, London, S.W.

The Briton's First Duty. The Case *for Universal Military Training*. With an Introduction by Field-Marshal Earl Roberts, V.C., K.G. Fourth *(Abridged) Edition. Sixtieth Thousand.* Price 6*d.* net.

Rudeval, F. R. de, 4, Rue Antoine Dubois, Paris.

Précis de Technique Orthopédique. Par P. Redard. Price Fr. 12.

Formulaire Pratique de Thérapeutique des Maladies Cutanées et Vénériennes. Par le Dr. Lucien Butte, Ex-chef de Laboratoire à l'Hôpital Saint-Louis, Lauréat de l'Institut (Académie des Sciences) et de l'Académie de Médecine. Price Fr. 6.

Springer, Julius, Monbijouplatz, 3, Berlin.

Lehrbuch der Gynäkologie. Von Max Runge, ord. Professor der Geburtshilfe und Gynäkologie und Direktor der Universitäts-Frauenklinik zu Göttingen. Dritte Auflage. Preis, geb., M.10.

Year-Book Publishers, 40, Dearborn-street, Chicago, Ill., U.S.A. (G. Gillies and Co., 28, Gibson-street, Hillhead, Glasgow.)

The *Practical* Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., *Professor of Laryngology* and Rhinology, Chicago Post-Graduate Medical School. Volume II. General Surgery. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in Rush Medical College (in Affiliation with the *University* of Chicago). Series 1907. Price 8*s.* Volume III. The Eye, Ear, Nose, and Throat. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D. Series 1907. Price 6*s.*

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

Bullmore, Charles Cecil, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health for the Truro and Falmouth Port Sanitary Authority.

Cheatle, G. Lenthal, C.B., F.R.C.S. Eng., has been appointed Surgeon to the City of London Hospital for Diseases of the Chest, E.

Cookson, F. N., M.D. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Stafford District of the county of Stafford.

Croft, W. F., M.B., Ch.B. Aberd., has been appointed Medical Examiner under the Workman's *Compensation* Act to the United Kingdom Steam Tug and Trawlers Insurance Company.

Cunning, Joseph, M.B., B.S. Melb., F.R.C.S. Eng., has been Surgeon to In-patients at the Victoria Hospital for Children.

Dickinson, J. J., M.B. Cantab., has been appointed Certifying Surg under the Factory and Workshop Act for the Tenbury Distric the county of Worcester.

Flemming, Arthur Launcelot, L.R.C.P. Lond., M.R.C.S., has b appointed Honorary Anæsthetist to the Cossham Memorial pital, Kingswood, *Bristol.*

Gibson, J. A., M.D. Edin., has been appointed Medical Officer for Rural District of the Isle of Wight.

Gregor, J., M.B., B.S. Glasg., has been appointed Certifying Sur under the Factory and Workshop Act for the Lochwinnoch Dis of the county of Renfrew.

Groves, E. Hey, B.Sc., M.D., M.S. Lond., F.R.C.S. Eng., has appointed Honorary Surgeon to the Cossham Memorial Hosp Kingswood, Bristol.

Hertz, A. F., M.B., B.Ch. Oxon., has been appointed Physician the *Electrical Department* at Guy's Hospital.

Iredell, C. E., M.R.C.S., L.R.C.P. Lond., has been appoint Surgeon to the Actino-therapeutic Department at Guy's Hospital

Jordan, A. C., M.D., B.C. Lond., has been appointed Medical Rad grapher at Guy's Hospital.

Lewis, Thomas, M.B., B.S. Lond., M.R.C.P., has been appoint Physician to Out-patients at the City of London Hospital *Diseases of the Chest, E.*

Lewis, W. J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has appointed Medical Officer to the Pontardawe Council, Glamorg

Lowe, Peter, M.A., M.B., B.Ch. Glasg., has been appointed Me Officer for the Hartland District by the Bideford (Devon) Board Guardians.

Morton, Charles Alexander, F.R.C.S. Eng., L.R.C.P. Lond., been appointed Honorary Consulting Surgeon to the Coss Memorial Hospital, Kingswood, Bristol.

Morton, C. J., M.D., C.M. Edin., has been appointed Surgical Rad grapher at *Guy's Hospital.*

Murray, D., M.B., M.S. Glasg., has been appointed Certifying Su geon under the Factory and Workshop Act for the Stornoway D trict of the county of Ross.

Nixon, John Alexander, B.A., M.B., B.C. Cantab., M.R.C.P. Lond *has been appointed Honorary Physician to the Cossham* Memor Hospital, Kingswood, Bristol.

Rogers, Bertram, B.A., M.D., B.Ch. Oxon., L.R.C.P. Lond., M.R.C.S has been appointed Honorary Physician to the Cossham Memori Hospital, Kingswood, Bristol.

Russell, Alfred Ernest, M.D. Lond., M.R.C.P., has been appoint Physician to Out-patients at St. Thomas's Hospital, London.

Saunders, *Percy W., M.B. Toronto,* M.R.C.S., *L.R.C.P. Lond.*, h been appointed Resident Medical Officer at the City of Londo Hospital for Diseases of the Chest, E.

Scott, George, M.B., C.M., has been appointed Medical Examine under the Workman's Compensation Act to the Aberde Mutual Steamship and *Trawlers Insurance Company.*

Smith, Robert Shingleton, M.D., B.Sc., F.R.C.P. Lond., M.R.C.S. has been appointed Honorary Consulting Physician *to th* Cossham Memorial Hospital, Kingswood, Bristol.

Stack, Edward Hugh Edwards, M.B., B.C. Cantab., F.R.C.S. Eng. *L.R.C.P., has been appointed Honorary Surgeon to the* Cossha Memorial Hospital, Kingswood, Bristol.

Swain, James, M.D., M.S. Lond., F.R.C.S. Eng., has been appoint Honorary Consulting Surgeon to the Cossham Memorial Hospital Kingswood, Bristol.

Thomas, Edmund J. Fairfield, L.R.C.P. Lond., M.R.C.S., L.S.A. has been appointed House Physician at the Cardiff Infirmary.

Thompson, A. F., M.B., Ch.B. Vict., *has been appointed* Honorary Anæsthetist to the Victoria Dental Hospital, Manchester.

Thompson, John Tatham, M.B., C.M. Edin., has been appointed Honorary Consulting Ophthalmic Surgeon to the *Cardiff Infirmary.*

Wiltshire, H. P., M.R.C.S., L.R.C.P. Lond., has been appointed *Certifying Surgeon under the Factory* and Workshop Act for th Hemsworth District of the county of York.

Vacancies.

For further information regarding each vacancy reference should b made to the advertisement (see Index).

Bolton Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

Burnley, Victoria Hospital.—Resident Medical Officer. Salary £100 per annum, with residence, board, and washing.

Bury *St. Edmunds, West Suffolk* General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

Cambridge, Addenbrooke's Hospital.—Assistant House Surgeon for six months. Salary £50 per annum, with board, *residence*, and *laundry.*

Cancer Hospital, Fulham-road, S.W.—Medical Officer in Charge of the *Electrical Department. Salary £26 5s.* per annum.

Derby, Derbyshire Royal Infirmary.—Assistant House Surgeon for six months. Salary *at rate of £60 per* annum, with board, residence, and washing.

Dunfermline, Carnegie Dunfermline Trust.—*College* of Hygiene and Physical Training.—Lecturer in Anatomy, Physiology, and Hygiene. Salary £300 per annum.

East *London Hospital for* Children and Dispensary for Women, Shadwell, E.—House Physician for six months. Salary £25, with board, residence, and laundry. *Also Second* Medical Officer to the Casualty Department. Salary at rate of £40 per annum.

Egypt.—Sub-Inspector of Ophthalmic *Hospitals*, unmarried. Salary £500 a year.

Enniskillen, Fermanagh County Hospital.—*House Surgeon. Salary £52 per* annum.

Great Northern Central Hospital, N.—Honorary *Medical Officer* in Charge of *Electrical Department.*

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100, with board, residence, and laundry. Also Assistant House Surgeon. Salary £50, with board, residence, and laundry.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging.

LIVERPOOL STANLEY HOSPITAL.—Assistant Honorary Ophthalmic Surgeon.

LONDON COUNTY ASYLUM, Claybury, Woodford Bridge, Essex.—Junior Assistant Medical Officer, unmarried. Salary £150 a year, with board, apartments, and washing.

LONDON COUNTY COUNCIL.—Two Local Assistant Medical Officers (Education) in the Public Health Department.

LONDON FEVER HOSPITAL, *Liverpool-road, N.—Assistant Resident* Medical Officer. Salary £120 per annum, with board and lodging.

LONDON SCHOOL OF CLINICAL MEDICINE (Seamen's Hospital, Greenwich, S.E.).—Assistant to the Pathologist. Pay £5 per month, with lunch and tea.

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon, non-resident, *for six months. Salary at rate of £75* per annum.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 a year, with rooms, attendance, board, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60, with board and lodging.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £80 per annum, with board, residence, and laundry.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

PARISH OF LAMBETH.—District Medical Officer. Salary £50 per annum, *with fees.*

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer *for four months.* Salary at rate of £60 per annum, with board, residence, and washing.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. Examiner in Dental Surgery. Also Member of the Court of Examiners.

ROYAL EYE HOSPITAL, St. George's-circus, S.E.—Refraction Assistant. Salary £40 per annum. Also Clinical Assistants.

ROYAL INSTITUTE OF PUBLIC HEALTH.—Demonstrator of Comparative Pathology and Bacteriology.

ST. MARY'S HOSPITAL, Paddington, W.—Curator of the Museum and Assistant Pathologist. Salary £100 per annum.

SALISBURY GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and *lodging.*

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board and residence.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £80 per annum, with board, washing, and residence.

STOCKPORT UNION, STEPPING HILL HOSPITAL.—Resident Assistant Medical Officer. Salary £130 per annum, with apartments, rations, &c.

SURREY DISPENSARY, Southwark, S.E.—Resident Medical Officer. Salary £140 per annum, rising to £150, with apartments, coals, gas, and attendance.

THEODORE WILLIAMS MEDICAL SCHOLARSHIP.—Value £100 a year, tenable four or five years.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, gas, firing, and attendance

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Surgeon to Out-patients.

WARWICK COUNTY ASYLUM.—Assistant Medical Officer. Salary £135, rising to £155 per annum, with board, apartments, and laundry.

WEST BROMWICH DISTRICT HOSPITAL.—Senior House Surgeon, unmarried. Salary £110 per annum, with, board residence, and laundry. Also Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and laundry.

WORCESTER GENERAL INFIRMARY.—House Physician. Salary £80 per annum, with board, residence, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Knaresborough, in the county of York, and at Blackpool, in the county of Lancaster

Births, Marriages, and Deaths.

BIRTHS.

JAYNES.—On June 21st, at Jamaica-road, London, S.E., the wife of Victor A. Jaynes, Surgeon, of a son.

STOCKWELL.—On June 23rd, at Leeds, the wife of G. B. St. Clair Stockwell, M.B., of a son.

MARRIAGE.

HARRISON—BRADFIELD.—On May 15th, at Indwe, South Africa, Reginald Temple Harrison, M.R.C.S., L.R.C.P., to Jessie Louise, second daughter of the Hon. J. L. Bradfield, ex-M.L.C. Cape Colony

DEATH.

O'NEILL.—On June 22nd, at Queen's-road, Hertford, Georgie, wife of Robert O'Neill, aged 30 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

EXAMINATION ODDITIES.

THE following are some answers given to a well-known surgeon in an examination for elementary anatomy, hygiene, and first aid. He says, in forwarding them to us, "They seem to me to be amusing enough for publication; I have not altered either the spelling or the construction of the sentences":—

> The brain is composed of three sections: the cerebrum, *cellebellum* and the meddulla oblongata: the cerebrum is contained within the *bones of the skull and is of convolationary* shape.
>
> Typhoid fever is the result of tainted *effuria* and sound *respirating* organs are frequently effectual against it, and a salutary atmosphere will prevent such occurrences.
>
> Ague is the result of defective excretion through the pores of *the skin, the skin becomes chocked* and unable to perform its functions.
>
> Measles result of bad smell. *Avoid them.*
>
> *Frost-bite.* Take patient into a cold room and gradually induce warmth by enclosing in warm clothes, this is a gradual treatment and no rubbing must take place, otherwise the organ or flesh might fall off.

CYCLE SADDLES.

To the Editors of THE LANCET.

SIRS,—If "Algebra" is anxious for a suitable saddle I can confidently recommend Christy's anatomical adjustable saddle, 12s. 6d. I have been cycling *from* 13 *to* 15 years and *for* over ten years have been using this make as well as the plain Christy saddle. I have two bicycles and one has the adjustable and the other the plain Christy, and since using them I have never had an hour's trouble from perineal pressure. I was driven to use them by two bad attacks of prostatic inflammation, and the result of using a saddle with a division of, say, three-quarters to one inch from front to back of centre of saddle, and consequently no danger of pressure on perineum, has been a real blessing. I give the saddle a slight *downward* and *forward* tilt and find no inconvenience from it. It *must be* tilted; the amount is a matter purely of taste.

I am, Sirs, yours faithfully,

Cardiff, June 21st, 1907. H. L. HOOPS.

PS.—I do all my work on a bicycle.

To the Editors of THE LANCET.

SIRS,—Replying to "Algebra's" query I have much pleasure in stating that a saddle is made by Pattinson which absolutely obviates all perineal pressure. The essentials of this saddle are that it consists of two comfortable pads (divided by a median groove) *for* the support of the ischial tuberosities. The tilting with such a saddle is a matter of personal idiosyncrasy, but the best result is obtained by using the saddle absolutely *horizontally.*

I am, Sirs, yours faithfully,

H. WHEATLEY HART, M.D. Durh.

West Kensington, June 24th, 1907.

To the Editors of THE LANCET.

SIRS,—In answer to your correspondent "Algebra" I would advise him to try a "Christy" saddle. I have ridden one *of these saddles* ever since they were brought out and find it most comfortable. I am bound to say, however, that other persons who have tried my saddle say that *it is not comfortable.* But then, no one saddle will fit two people, any more than a boat or a gun will. As to the tilt at which the saddle should be placed, "Algebra" must find that *out for himself,* for no one can advise him on this point.

I am, Sirs, yours faithfully,

ETONENSIS.

To the Editors of THE LANCET.

SIRS,—As a cyclist of many years' experience I am pleased to inform "Algebra" that the best cycle saddles are those without a peak, such as the Christy saddle.

It takes a little time for a rider who has been accustomed to ride a saddle with a peak to get used to the other kind, *but after he has got* into the way *of it* he will never go back to the other and, I think, barbarous seat.

I am, Sirs, yours faithfully,

June 25th, 1907. *DERBY.*

OVINE TERATOLOGY.

IN the *Scientific American* of June 15th Dr. C. R. Stockard of Columbia University gives an illustrated description *of a remarkable* malformation of two lambs born in the *same flock* of sheep on a farm in North Carolina. The first of these lambs was born in the beginning of February. It was without any indication of limbs but was *perfect* in every other respect, having a well formed head and body and a long tail. Both the lamb and its mother were black. A second lamb identically like the first, except that it was white instead of black, was born on the same farm in the latter part of April. Th one had the same father as the former legless lamb but a different mother, both of its parents being white, whereas the first lamb had a black mother as already mentioned. Dr. Stockard says that animals presenting certain abnormalities may breed true to their peculiar form and that Darwin had described as instances of this kind the black-japanned peacock, the turnspit dog, and the "Ancon ram." The "Ancon ram" was a peculiar long-bodied sheep with short crooked legs, born in Massachusetts about 1791. These sheep existed in New England for 60 or 70 years, and were then in some way allowed to become extinct. Albinos are the most common examples of animal mutations of this description.

HYPODERMIC ADMINISTRATION OF ATOXYL.

To the Editors of THE LANCET.

SIRS,—I should like to ask any of your readers who have had experience of this method of administration of atoxyl whether they have had any unpleasant results. In two cases in my experience a hæmorrhagic bleb rose very shortly over the site of the injection followed by a slough of the superficial layers of the epidermis. The injections were made subcutaneously. The formula used was: Atoxyl, gramme ¼; aq. ad 1 c.c.

I am, Sirs, yours faithfully,
T. W. S. PATERSON, M.B. Cantab.
King William-street, E.C., June 24th, 1907.

WANTED—SUGGESTIONS FOR TREATMENT.

"ENQUIRER" asks readers of THE LANCET for information and suggestions that might guide him as to the treatment of the following case. The patient, a man, aged 37 years, has marked swelling of the eyelids, both upper and lower, with reddening of the skin over them, and redness and roughness of the skin between the eyes and on the forehead. A very unsightly appearance is thus produced, more especially as there is also a bulbous look about the nose. In addition, there is baldness and the patient wears spectacles for myopia. The swelling of the eyelids came on rather suddenly seven years ago, and a good deal of the swelling can be temporarily pressed away with the finger, giving the impression of inflation of the skin with air. The heart is sound and the urine is normal. The intellect is good and the family history is good; the mother, however, has had eczema. The treatment tried has been thyroid extract, suprarenalin, iodide of potassium, mercury, and arsenic. Collodion has also been used as a paint.

THE COST OF A UNIFORM.

A CORRESPONDENT asks our readers for information concerning the cost of uniform and training at Aldershot incurred by joining the Army Medical Reserve. He hopes that some Army Medical Reserve officer will supply him with particulars.

◆

Mason.—We consider that C's action as described to us by our correspondent savours of sharp practice.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3 30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (3rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (4th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Gt. Ormond street (2.30 P.M.), Tottenham (Gynæcological,

FRIDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M. Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 Northern Central (2.30 P.M.), West London (2.30 P.M.) Throat (9.30 A.M.), Samaritan (9 30 A.M. and 2.30 P.M. Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), (2 P.M.), Central London Throat and Ear (2 P.M.), Chil Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2 St. Peter's (2 P.M.).

SATURDAY (6th).—Royal Free (9 A.M.), London (2 P.M.), (1.30 P.M.), St. Thomas's (2 P.M.), University College (9. Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Chil Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London C (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), Central London Ophthalmic Hospitals operations are

SOCIETIES.

WEDNESDAY (3rd).—OBSTETRICAL SOCIETY OF LONDON (20, square, W.).—8 P.M.: Specimens will be shown by Dr. Ed Aldrich-Blake, Dr. Lewers, Mrs. Boyd, M.D., Dr. Longrid Dr. R. D. Maxwell, and Mr. Targett. Short Communicatio F. E. Taylor: Typhoid Infection of Ovarian Cysts.

LECTURES, ADDRESSES, DEMONSTRATIONS,

MONDAY (1st).—POST-GRADUATE COLLEGE (West London Hammersmith-road, W.).—12 noon: Pathological Dr. Low. 2 P.M.: Medical and Surgical Clinics. X Rays Dunn: Diseases of the Eye. 2.30 P.M.: Operations. Clinical Lecture:—Mr. Paget.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, W.C.).—4 P.M.: Dr. G. Little: Clinique. (Skin.) 5.15 Lecture:—Prof. W. Cheyne: Some Surgical Considerations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of General Hospital, Tottenham, N.).—Cliniques:—9.30 A.M.: Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hos Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. St Thomson: Diseases of the Throat, Nose, and Ear. Out-pa Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: and Throat.

TUESDAY (2nd).—POST-GRADUATE COLLEGE (West London Hosp Hammersmith road, W.).—10 A.M.: Dr. Moullin: Gynæcolo Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operati Dr. Abraham: Diseases of the Skin. 3 P.M.: Types of Insanity the London County Asylum, Claybury, Essex).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-str W.C.).—4 P.M.: Dr. C. O. Hawthorne: Clinique. (Medical.) 5.15 P. Lecture:—Mr. E. M. Corner: Deformities of the Foot associa with Adduction.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wal General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medi Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operati (Mr. Carson). Demonstration on Clinical Pathology (Dr. B. Pric

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospit Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P. Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morr Diseases of the Skin. Out-patient Demonstrations:—10 A. Surgical and Medical. 12 noon: Skin. 4 P.M.: Special Lecture: Mr. M. Morris: Treatment of Chronic Eczema.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-ro W.C.).—3.45 P.M.: Demonstration:—Mr. Stuart-Low: Middle and Labyrinth.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Que square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—D A. Turner: Treatment of Epilepsy.

WEDNESDAY (3rd).—POST-GRADUATE COLLEGE (West London Ho pital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of th Throat, Nose, and Ear. Dr. Saunders: Diseases of Childre 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. K. Scott Diseases of Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. J. Pardoe: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. W. Langdon-Brown: Some Points concerning Albuminuria, Phosphaturia, and Oxaluria.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

THURSDAY (4th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. E. M. Corner: Deformities of the Foot associated with Adduction.

th-East London Post-Graduate College (Prince of Wales's eral Hospital, Tottenham, N.).—2.30 p.m.: Gynæcological Opera- ns (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), rgical Out-patient (Mr. Carson). 3 p.m.: Medical In-patient r. Chappel).

on School of Clinical Medicine (Dreadnought Hospital, eenwich).—2.30 p.m.: Operations. 2.30 p.m.: Dr. G. Rankin: dicine. 3.15 p.m.: Sir W. Bennett: Surgery. 4 p.m.: Mr. M. vidson: Radiography. Out-patient Demonstrations:—10 a.m.: rgical and Medical. 12 noon: Ear and Throat.

ring Cross Hospital.—4 p.m.: Mr. Fairbank: Demonstration thopædic). (Post-Graduate Course.)

pital for Sick Children (Gt. Ormond-street, W.C.).—4 p.m.: cture:—Dr. Still: "Bilious Attacks" in Children.

ay (5th).—Post-Graduate College (West London Hospital, mmersmith-road, W.).—10 a.m.: Dr. Moullin: Gynæcological perations. 2 p.m.: Medical and Surgical Clinics. Dr. Ball: seases of the Throat, Nose, and Ear. X Rays. 2.30 p.m.: erations. Dr. Abraham: Diseases of the Skin. 5 p.m.: Lecture:— r. Abraham: Cases of Skin Disease.

dical Graduates' College and Polyclinic (22, Chenies-street, .C.).—4 p.m.: Mr. A. Dawson: Clinique. (Eye.)

th-East London Post-Graduate College (Prince of Wales's eneral Hospital, Tottenham, N.).—9.30 a.m.: Clinique:—Surgical ut-patient (Mr. H. Evans). 2.30 p.m.: Surgical Operations (Mr. dmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. rooks). 3 p.m.: Medical In-patient (Dr. Leslie).

don School of Clinical Medicine (Dreadnought Hospital, reenwich).—2.15 p.m.: Dr. R. Bradford: Medicine. 2.30 p.m.: perations. 3.15 p.m.: Mr. McGavin: Surgery. Out-patient Demonrations:—10 a.m.: Surgical and Medical. 12 noon: Skin.

tional Hospital for the Paralysed and Epileptic (Queen- quare, Bloomsbury, W.C.).—3.30 p.m.: Clinical Lecture:—Dr. Collier: Treatment of Torticollis.

tral London Throat and Ear Hospital (Gray's Inn-road, .C.).—3.45 p.m.: Demonstration: Mr. Stuart-Low: Middle Ear d Labyrinth.

rday (6th).—Post-Graduate College (West London Hospital, ammersmith-road, W.).—10 a.m.: Dr. Ball: Diseases of the hroat, Nose, and Ear. 2 p.m.: Medical and Surgical Clinics. Rays. Dr. K. Scott: Diseases of Eye. 2.30 p.m.: Operations.

don School of Clinical Medicine (Dreadnought Hospital, reenwich.)—2.30 p.m.: Operations. Out-patient Demonstrations:— a.m.: Surgical and Medical. 11 a.m.: Eye.

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THE INDEX TO THE LANCET.

HE Index and Title-page to Vol. I. of 1907, which is pleted with the issue of to-day, will be given in the next ber of THE LANCET.

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(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, June 27th, 1907.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radiation in Vacuo	Maximum Temp. Shade	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 21	29·79	W.	...	124	65	53	52	53	Fine
" 22	29·92	S.W.	...	123	65	54	54	57	Overcast
" 23	29·82	W.	...	121	69	51	53	51	Cloudy
" 24	29·92	S.W.	...	97	62	51	55	56	Overcast
" 25	29·72	W.	0·13	104	61	50	50	55	Cloudy
" 26	29·91	S.W.	0·04	123	71	56	54	57	Cloudy
" 27	29·90	S.W.	0·01	83	63	56	57	[illegible]	Raining

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